

**ECLA****EUROPEAN CLASSIFICATION****A61K****PREPARATIONS FOR MEDICAL, DENTAL, OR TOILET PURPOSES**

(devices or methods specially adapted for bringing pharmaceutical products into particular physical or administering forms [A61J3/00](#); chemical aspects of, or use of materials for deodorisation of air, for disinfection or sterilisation, or for bandages, dressings, absorbent pads or surgical articles [A61L](#); [N: compounds per se [C01](#), [C07](#), [C08](#), [C12N](#)]; soap compositions [C11D](#); [N: micro-organisms per se [C12N](#)]) [[C1003](#)]

[N: **WARNING**  
[[C2012.02](#)]

- The following IPC groups are not used in the internal ECLA classification scheme. Subject matter covered by these groups is classified in the following ECLA groups:

<a href="#">A61K6/033</a>	covered by	<a href="#">A61K6/06A</a>
<a href="#">A61K9/133</a>	covered by	<a href="#">A61K9/127</a>
<a href="#">A61K9/18</a>	covered by	<a href="#">A61K9/14</a>
<a href="#">A61K9/22</a>	covered by	<a href="#">A61K9/20</a>
<a href="#">A61K9/24</a>	covered by	<a href="#">A61K9/20K4B</a>
<a href="#">A61K9/26</a>	covered by	<a href="#">A61K9/20K2</a> , <a href="#">A61K9/20K2B</a>
<a href="#">A61K9/30</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/32</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/34</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/36</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/38</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/40</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/42</a>	covered by	<a href="#">A61K9/28</a>
<a href="#">A61K9/44</a>	covered by	<a href="#">A61K9/20K</a>
<a href="#">A61K9/46</a>	covered by	<a href="#">A61K9/00L6</a>
<a href="#">A61K9/52</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/54</a>	covered by	<a href="#">A61K9/50K</a> , <a href="#">A61K9/50K2</a> , <a href="#">A61K9/50M</a>
<a href="#">A61K9/56</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/58</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/60</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/62</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/64</a>	covered by	<a href="#">A61K9/50</a>
<a href="#">A61K9/66</a>	covered by	<a href="#">A61K9/48</a>
<a href="#">A61K9/68</a>	covered by	<a href="#">A61K9/00M18B2</a>
<a href="#">A61K9/72</a>	covered by	<a href="#">A61K9/00M20B</a>
<a href="#">A61K45/08</a>	covered by	<a href="#">A61K31/00</a> , <a href="#">A61K47/00</a>
<a href="#">A61K47/04</a>	covered by	<a href="#">A61K47/02</a>
<a href="#">A61K50/00</a>	covered by	<a href="#">A61K9/00L8</a> , <a href="#">C09J9/02</a>

- The following IPC indexing codes are not used in the ECLA classification scheme:  
[A61K101/00-A61K135/00](#)
- Subgroups of [A61K48/00](#) are incomplete (Jan. 2003). Documents are being reclassified from [A61K48/00](#) to its subgroups

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**Notes**

- This subclass covers the following subject matter, whether set forth as a composition (mixture), process of preparing the composition or process of treating using the composition:

- a. Drug or other biological compositions which are capable of:
- preventing, alleviating, treating or curing abnormal or pathological conditions of the living body by such means as destroying a parasitic organism, or limiting the effect of the disease or abnormality by chemically altering the physiology of the host or parasite (biocides [A01N25/00](#) to [A01N65/00](#));
  - maintaining, increasing, decreasing, limiting, or destroying a physiological body function, e.g. vitamin compositions, sex sterilants, fertility inhibitors, growth promoters, or the like (sex sterilants for invertebrates, e.g. insects, [A01N](#); plant growth regulators [A01N25/00](#) to [A01N65/00](#));
  - diagnosing a physiological condition or state by an in vivo test, e.g. X-ray contrast or skin patch test compositions (measuring or testing processes involving enzymes or micro-organisms [C12Q](#); in vitro testing of biological material, e.g. blood, urine, [G01N](#), e.g. [G01N33/48](#))
- b. Body treating compositions generally intended for deodorising, protecting, adorning or grooming the body, e.g. cosmetics, dentifrices, tooth filling materials.
2. Attention is drawn to the definitions of groups of chemical elements following the title of section C.
  3. Attention is drawn to the notes in class C07, for example the notes following the title of the subclass C07D, setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in A61K.
  4. In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place.

**A61K6/00**

**Preparations for dentistry** (teeth cleaning preparations [A61K8/00](#), [A61Q11/00](#); [N: dental prostheses [A61C13/00](#); apparatus or methods for oral or dental hygiene [A61C](#)] [[C1202](#)])

**[N: Notes**

[[C1202](#)]In groups [A61K6/00-A61K6/00D4](#) and [A61K6/083-A61K6/10](#), the use of specific polymers is indicated by addition of classification symbols of the subclass C08L preceded by the sign "+", e.g. compositions for taking dental impressions containing alginates are classified in [A61K6/10+C08L5/04](#)

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[A61K6/00A](#)  
[A61K6/00A1](#)  
[A61K6/00A2](#)  
[A61K6/00A3](#)  
[A61K6/00A4](#)

- . [N: Compositions characterised by physical properties] [N1112]
- . . [N: by refractive index] [N1112]
- . . [N: by particle size] [N1112]
- . . [N: by retraction, e.g. compositions for widening the sulcus for making dental impressions or removing teeth] [N1112]
- . . [N: Self-expanding, e.g. for filling teeth] [N1112]

- A61K6/00A5 . . [N: Protective coating for natural or artificial teeth, such as sealing, dye coating, varnish] [N1112]
- A61K6/00A6 . . [N: Compositions for detecting or measuring, e.g. contact points, irregularities on natural or artificial teeth] [N1112]
- A61K6/00B . [N: Chemical means for temporarily or permanently fixing teeth, palates or the like]
- A61K6/00B3 . . [N: Preparations for stabilising dentures in the mouth] [N9603]
- A61K6/00C . [N: Primers (adhesive primers [A61K6/00B](#))] [N0401]
- A61K6/00D . [N: Use of preparations for dental root treatment]
- A61K6/00D1 . . [N: Cleaning; Disinfecting] [N1112]
- A61K6/00D2 . . [N: Filling; Sealing] [N1112]
- A61K6/00D3 . . [N: Apical treatment] [N1112]
- A61K6/00D4 . . [N: in combination with dental implants] [N1112]
- A61K6/00E . [N: Preparations for dentistry characterised by the presence of organic or organo-metallic additives] [N1112]
- A61K6/00E1 . . [N: Cationic, anionic or redox initiators] [N1112]
- A61K6/00E2 . . [N: Photochemical radical initiators] [N1112]
- A61K6/00E3 . . [N: Thermal radical initiators] [N1112]
- A61K6/00E4 . . [N: Dyes] [N1112]
- A61K6/00E4B . . . [N: photochromic] [N1112]
- A61K6/00E4D . . . [N: thermochromic] [N1112]
- A61K6/00E5 . . [N: Medicaments; Drugs] [N1112]
- A61K6/00F . [N: Preparations for dentistry characterized by the presence of inorganic additives] [N1112]
- A61K6/00F1 . . [N: Fillers] [N1112]
- A61K6/00F1A . . . [N: comprising nitrogen-containing compounds] [N1112]
- A61K6/00F1B . . . [N: comprising sulfur-containing compounds] [N1112]
- A61K6/00F1C . . . [N: comprising phosphorus-containing compounds] [N1112]
- A61K6/00F1C1 . . . . [N: Apatite] [N1112]
- A61K6/00F1D . . . [N: comprising silicon-containing compounds] [N1112]
- A61K6/00F1E . . . [N: Glass] [N1112]
- A61K6/00F2 . . [N: Pigments] [N1112]
- A61K6/00F3 . . [N: Initiators] [N1112]
- A61K6/02 . Use of preparations for artificial teeth, for filling or for capping teeth
- A61K6/02A . . [N: Ceramics] [N1112]
- A61K6/02A1 . . . [N: comprising manganese oxide] [N1112]
- A61K6/02A2 . . . [N: comprising magnesium oxide] [N1112]
- A61K6/02A3 . . . [N: comprising beryllium oxide] [N1112]
- A61K6/02A4 . . . [N: comprising chromium oxide] [N1112]
- A61K6/02A5 . . . [N: comprising iron oxide] [N1112]
- A61K6/02A6 . . . [N: comprising titanium oxide] [N1112]

- A61K6/02A7 . . . [N: comprising zirconium oxide] [N1112]
- A61K6/02A8 . . . [N: comprising hafnium oxide] [N1112]
- A61K6/02A9 . . . [N: comprising rare earth metal oxides] [N1112]
- A61K6/02A10 . . . [N: comprising transition metal oxides] [N1112]
- A61K6/02A11 . . . [N: Leucite] [N1112]
- A61K6/02B . . [N: Cermet-composites] [N1112]
- A61K6/027 . . Use of non-metallic elements or compounds thereof, e.g. carbon [N: (non-metallic elements per se [C01B](#))]
- A61K6/027C . . . [N: Glass-ceramic-composites] [N1112]
- A61K6/027D . . . [N: Glasses][N0401]
- A61K6/033 . . . [N: Phosphorus compounds, e.g. apatite] [N1112]
- A61K6/04 . . Use of metals or alloys (alloys per se [C22C](#))
- A61K6/04A . . . [N: Rare earth metals] [N1112]
- A61K6/04B . . . [N: Noble metals][N0401]
- A61K6/05 . . . Amalgams
- A61K6/06 . . Use of inorganic cements (cements per se C04B) [C1112]
- A61K6/06B . . . [N: Portland cements] [N1112]
- A61K6/06C . . . [N: Silicates] [N1112]
- A61K6/06D . . . [N: Pozzolans] [N1112]
- A61K6/06E . . . [N: Calcium sulfates/gypsum] [N1112]
- A61K6/06F . . . [N: Al-cements] [N1112]
- A61K6/06G . . . [N: Ca-Al-sulfate-cements] [N1112]
- A61K6/06H . . . [N: Phosphate cements (apatite [A61K6/033](#))] [N1112]
- A61K6/06J . . . [N: Ammonium cements] [N1112]
- A61K6/06K . . . [N: Zeolite] [N1112]
- A61K6/06L . . . [N: Quartz or SiO<sub>2</sub>] [N1112]
- A61K6/06M . . . [N: Carbonates] [N1112]
- A61K6/06N . . . [N: Calcium oxide] [N1112]
- A61K6/06P . . . [N: comprising zirconium oxide] [N1112]
- A61K6/06Q . . . [N: comprising chromium oxide] [N1112]
- A61K6/06R . . . [N: comprising carbides] [N1112]
- A61K6/08 . . Use of natural or synthetic resins (resins per se [C08](#))
- A61K6/083 . . . Compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds
- A61K6/083M . . . . [N: Polycarboxylate cements or glass ionomer cements] [C1112]
- A61K6/087 . . . Compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds
- A61K6/09 . . . . Polyurethanes
- A61K6/093 . . . . Polyorganosilicon compounds
- A61K6/097 . . . . Polysaccharides
  
- A61K6/10 . . Compositions for taking dental impressions (impression methods [A61C9/00](#))

**A61K8/00** **Cosmetic or similar toilet preparations** (casings or accessories for storing or handling of solid or pasty toilet or cosmetic substances [A45D40/00](#)) [C0810]

**Notes**[C0802]

Use of cosmetics or similar toilet preparations is further classified in subclass A61Q.

**[N: WARNING**

Group [A61K8/00](#) and subgroups are incomplete. See provisionally also [A61K7/00](#) and subgroups.

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**[N: Notes**

1. Use of cosmetics or similar toilet preparations is mandatorily further classified in subclass A61Q. 2. In each of groups [A61K8/02](#) and [A61K8/18](#), in the absence of an indication of the contrary, classification is made in the last appropriate place. 3. Attention is drawn to the Notes in class C07, for example the notes following the title of subclass C07D, setting forth the rules for classifying organic compounds in that class, which rules are also applicable, if not otherwise indicated, to the classification of organic compounds in group [A61K8/00](#). 4. Salts or complexes of organic compounds are classified according to the base compounds. If a complex is formed between two or more compounds, classification is made for each compound. [C1207]

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- A61K8/02 . characterised by special physical form[N0209]
- A61K8/02A . . [N: Specific forms not provided for by any of groups A61K8/02C to A61K8/14] [N1204]
- A61K8/02C . . [N: Tissues; Wipes; Patches] [N0209]
- A61K8/02F . . [N: Face masks] [N0209]
- A61K8/02M . . [N: Solid or semisolid forms] [N1204]
- A61K8/02M2 . . . [N: Powders; Compacted Powders] [N1204]
- A61K8/02M2G . . . . [N: Granulated powders] [N1204]
- A61K8/02M4 . . . [N: Sticks] [N1204]
- A61K8/02M5 . . . [N: Distinct layers, e.g. core/shell sticks] [N1204]
- A61K8/02M5S . . . . [N: Striped compositions] [N1204]
- A61K8/02N . . [N: Containing particulates characterized by their shape and/or structure (see also A61K8/04, A61K8/11, and A61K8/14, further aspects are classified in A61K2800/40 and subcodes)] [N1204]
- A61K8/02N1 . . . [N: Specific shapes or structures not provided for by any of the groups of A61K8/02N] [N1204]
- A61K8/02N2 . . . [N: Explicitly spheroidal or spherical shape] [N1204]
- A61K8/02N3 . . . [N: Platelets; Flakes] [N1204]
- A61K8/02N3L . . . . [N: Layered structure] [N1204]
- A61K8/02N3L3 . . . . . [N: Characterized by the central layer] [N1204]
- A61K8/02N3L6 . . . . . [N: Characterized by the sequence of layers] [N1204]
- A61K8/02N4 . . . [N: Fibers; Fibrils] [N1204]
- A61K8/02N5 . . . [N: Containing agglomerated particulates] [N1204]
- A61K8/02N6 . . . [N: Porous; Hollow] [N1204]
- A61K8/02N7 . . . [N: Matrix particles] [N1204]
- A61K8/02N7D . . . . [N: the particulate containing a solid-in-solid dispersion] [N1204]
- A61K8/02S . . [N: Micelles] [N1204]

- A61K8/02X . . [N: Liquid crystals] [N1204]
- A61K8/03 . . Liquid compositions with two or more distinct layers [N0209]
- A61K8/04 . . Dispersions; Emulsions [N0209]
- A61K8/04A . . . [N: Gels] [N0801]
- A61K8/04C . . . [N: Suspensions] [N0209]
- A61K8/04F . . . [N: Aerosols; Foams] [N0209]
- A61K8/06 . . . Emulsions [N0209] [C0912]
- A61K8/06A . . . . [N: Oil-in-water emulsions] [N1204]
- A61K8/06B . . . . [N: Water-in-oil emulsions, e.g. Water-in-silicone emulsions] [N1204]
- A61K8/06F . . . . [N: Multiple emulsions, e.g. water-in-oil-in-water] [N0209]
- A61K8/06M . . . . [N: Microemulsions] [N1204]
- A61K8/11 . . Encapsulated compositions [N0209]
- A61K8/14 . . Liposomes; Vesicles [N0209]
  
- A61K8/18 . characterised by the composition[N0209]
- A61K8/19 . . containing inorganic ingredients[N0209]
- A61K8/20 . . . Halogens; Compounds thereof [N0209]
- A61K8/21 . . . . Fluorides; Derivatives thereof [N0209]
- A61K8/22 . . . Peroxides; Oxygen; Ozone [N0209]
- A61K8/23 . . . Sulfur; Selenium; Tellurium; Compounds thereof [N0209]
- A61K8/24 . . . Phosphorous; Compounds thereof [N0209]
- A61K8/25 . . . Silicon; Compounds thereof [N0209]
- A61K8/26 . . . Aluminium; Compounds thereof [N0209]
- A61K8/27 . . . Zinc; Compounds thereof [N0209]
- A61K8/28 . . . Zirconium; Compounds thereof [N0209]
- A61K8/29 . . . Titanium; Compounds thereof [N0209]
- A61K8/30 . . containing organic compounds[N0209]
- A61K8/31 . . . Hydrocarbons [N0209]
- A61K8/31C . . . . [N: Halogenated hydrocarbons][N0209]
- A61K8/33 . . . containing oxygen [N0209]
- A61K8/34 . . . . Alcohols [N0209]
- A61K8/34C . . . . . [N: Alcohols having more than seven atoms in an unbroken chain] [N0209]
- A61K8/34D . . . . . [N: containing more than one hydroxy group][N0302]
- A61K8/34F . . . . . [N: Phenols] [N0209]
- A61K8/35 . . . . Ketones, e.g. benzophenone [N0209]
- A61K8/35C . . . . . [N: Quinones] [N0209]
- A61K8/36 . . . . Carboxylic acids; Salts or anhydrides thereof [N0209]
- A61K8/36C . . . . . [N: Carboxylic acids having more than seven carbon atoms in an unbroken chain; Salts or anhydrides thereof] [N0801]
- A61K8/362 . . . . . Polycarboxylic acids [N0209]
- A61K8/365 . . . . . Hydroxycarboxylic acids; Ketocarboxylic acids [N0209]
- A61K8/368 . . . . . with carboxyl groups directly bound to carbon atoms or aromatic rings

			N0209]
A61K8/37	. . . .	Esters of carboxylic acids [N0209]	
A61K8/37C	. . . . .	[N: the alcohol moiety containing more than one hydroxy group] [N0209]	
A61K8/38	. . . .	Percompounds, e.g. peracids [N0209]	
A61K8/39	. . . .	Alkoxylated derivatives, i.e. derivatives containing from 2 to 10 oxyalkylene groups [N0209]	
A61K8/40	. . . .	containing nitrogen (quinones containing nitrogen <a href="#">A61K8/35C</a> ) [N0209]	
A61K8/41	. . . .	Amines [N0209]	
A61K8/41C	. . . . .	[N: Aromatic amines, i.e. where the amino group is directly linked to the aromatic nucleus] [N0209]	
A61K8/41F	. . . . .	[N: Indoanilines; Indophenol; Indoamines] [N0209]	
A61K8/41H	. . . . .	[N: Aminophenols] [N0209]	
A61K8/41L	. . . . .	[N: Quaternary ammonium compounds ( <a href="#">A61K8/35</a> takes precedence)] [N0209]	
A61K8/41R	. . . . .	[N: containing nitro groups][N0302]	
A61K8/42	. . . .	Amides [N0209]	
A61K8/43	. . . .	Guanidines [N0209]	
A61K8/44	. . . .	Aminocarboxylic acids or derivatives thereof, e.g. aminocarboxylic acids containing sulfur; Salts; Esters or N-acylated derivatives thereof [N0209]	
A61K8/44D	. . . . .	[N: substituted by amido group(s)][N0302]	
A61K8/44G	. . . . .	[N: aromatic, i.e. the carboxylic acid directly linked to the aromatic ring][N0302]	
A61K8/44K	. . . . .	[N: containing sulfur][N0302]	
A61K8/45	. . . .	Alkoxylatedderivatives, i.e. derivatives containing from 2 to 10 oxyalkylene groups [N0209]	
A61K8/46	. . . .	containing sulfur ( <a href="#">A61K8/44</a> takes precedence) [N0209]	
A61K8/46C	. . . . .	[N: containing sulfuric acid derivatives, e.g. sodium lauryl sulfate] [N0209]	
A61K8/46F	. . . . .	[N: containing sulfonic acid derivatives; Salts] [N0209]	
A61K8/49	. . . .	containing heterocyclic compounds [N0209]	
A61K8/49C	. . . . .	[N: with one nitrogen as the only hetero atom] [N0209]	
A61K8/49C2	. . . . .	[N: having five membered rings, e.g. pyrrolidone carboxylic acid] [N0209]	
A61K8/49C2C	. . . . .	[N: having condensed rings, e.g. indol] [N0209]	
A61K8/49C4	. . . . .	[N: having six membered rings] [N0209]	
A61K8/49C6	. . . . .	[N: having sulfur as an exocyclic substituent, e.g. pyridinethione] [N0209]	
A61K8/49F	. . . . .	[N: with more than one nitrogen as the only hetero atom] [N0209]	
A61K8/49F1	. . . . .	[N: Imidazoles or their condensed derivatives, e.g. benzimidazoles][N0302]	
A61K8/49F2	. . . . .	[N: containing pyrimidine ring derivatives, e.g. minoxidil] [N0209]	
A61K8/49F3	. . . . .	[N: Triazoles or their condensed derivatives, e.g. benzotriazoles][N0302]	
A61K8/49F4	. . . . .	[N: Triazines or their condensed derivatives] [N0209] [C1001]	
A61K8/49H	. . . . .	[N: with oxygen as the only hetero atom] [N0209]	
A61K8/49H2	. . . . .	[N: having 6-membered rings or their condensed derivatives, e.g. coumarin][N0302]	
A61K8/49L	. . . . .	[N: with sulfur as the only hetero atom] [N0209]	

A61K8/49P	. . . .	[N: Alkoxyated derivatives, i.e. derivatives containing from 2 to 10 oxyalkylene groups] [N0209]
A61K8/55	. . . .	Phosphorus compounds [N0209]
A61K8/55C	. . . .	[N: Phospholipids, e.g. lecithin] [N0209]
A61K8/55F	. . . .	[N: Alkoxyated derivatives, i.e. derivatives containing from 2 to 10 oxyalkylene groups] [N0209]
A61K8/58	. . . .	containing atoms other than carbon, hydrogen, halogen, oxygen, nitrogen, sulfur or phosphorus [N0209]
A61K8/58C	. . . .	[N: Organosilicon compounds] [N0209]
A61K8/60	. . . .	Sugars; Derivatives thereof [N0209]
A61K8/60A	. . . .	[N: Glycosides, e.g. rutin][N0302]
A61K8/60B	. . . .	[N: Alkylpolyglycosides; Derivatives thereof, e.g. esters][N0302]
A61K8/60C	. . . .	[N: Nucleosides; Nucleotides; Nucleic acids] [N0209]
A61K8/60F	. . . .	[N: Alkoxyated derivatives, i.e. derivatives containing from 2 to 10 oxyalkylene groups] [N0209]
A61K8/63	. . . .	Steroids; Derivatives thereof [N0209]
		<b>Note</b>
		This group covers steroids, as defined in Note (1) after the title of subclass C07J.
A61K8/64	. . . .	Proteins; Peptides; Derivatives or degradation products thereof [N0209]
A61K8/64C	. . . .	[N: Proteins of vegetable origin; Derivatives or degradation products thereof] [N0209] [C1107]
A61K8/65	. . . .	Collagen; Gelatin; Keratin; Derivatives or degradation products thereof [N0209]
A61K8/66	. . . .	Enzymes [N0209]
A61K8/67	. . . .	Vitamins [N0209]
A61K8/67C	. . . .	[N: Vitamin A; Derivatives thereof, e.g. ester of vitamin A acid, ester of retinol, retinol, retinal] [N0209]
A61K8/67F	. . . .	[N: Vitamin B group] [N0209]
A61K8/67F3	. . . .	[N: Vitamin B3 or vitamin B3 active, e.g. nicotinamide, nicotinic acid, nicotinyl aldehyde (tocopheryl nicotinate <a href="#">A61K8/67L</a> )] [N0209]
A61K8/67H	. . . .	[N: Ascorbic acid, i.e. vitamin C] [N0209]
A61K8/67L	. . . .	[N: Tocopherol, i.e. vitamin E] [N0209]
A61K8/68	. . . .	Sphingolipids, e.g. ceramides, cerebrosides, gangliosides [N0209]
A61K8/69	. . . .	containing fluorine [N0209]
A61K8/70	. . . .	containing perfluoro groups, e.g. perfluoroethers [N0209] [C1103]
A61K8/72	. . . .	containing organic macromolecular compounds[N0209]
A61K8/73	. . . .	Polysaccharides[N0209]
A61K8/73C	. . . .	[N: Cellulose; Quaternized cellulose derivatives] [N0209]
A61K8/73F	. . . .	[N: Starch; Amylose; Amylopectin; Derivatives thereof] [N0209]
A61K8/73H	. . . .	[N: Alginate; Salts thereof] [N0209]
A61K8/73L	. . . .	[N: Mucopolysaccharides, e.g. hyaluronic acid; Derivatives thereof] [N0209]
A61K8/73P	. . . .	[N: Chitin; Chitosan; Derivatives thereof] [N0209]
A61K8/73R	. . . .	[N: Galactomannans, e.g. guar; Derivatives thereof] [N0209]
A61K8/73T	. . . .	[N: Cyclodextrins] [N0209]

A61K8/81	. . .	obtained by reactions involving only carbon-to-carbon unsaturated bonds[N0209]
A61K8/81C	. . . .	[N: Compositions of homopolymers or copolymers of unsaturated aliphatic hydrocarbons having only one carbon-to-carbon double bond; Compositions of derivatives of such polymers] [N0209]
A61K8/81C2	. . . . .	[N: Homopolymers or copolymers of aliphatic olefines, e.g. polyethylene, polyisobutene; Compositions of derivatives of such polymers] [N0209]
A61K8/81C4	. . . . .	[N: Homopolymers or copolymers of aromatic olefines, e.g. polystyrene; Compositions of derivatives of such polymers] [N0209]
A61K8/81E	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one carbon-to-carbon double bond, and at least one being terminated by a halogen; Compositions of derivatives of such polymers, e.g. PVC, PTFE] [N0209]
A61K8/81G	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an alcohol, ether, aldehydo, ketonic, acetal or ketal radical; Compositions of hydrolysed polymers or esters of unsaturated alcohols with saturated carboxylic acids; Compositions of derivatives of such polymers, e.g. polyvinylmethylether] [N0209]
A61K8/81H	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by an acyloxy radical of a saturated carboxylic acid, of carbonic acid or of a haloformic acid; Compositions of derivatives of such polymers, e.g. vinyl esters (polyvinylacetate)] [N0209]
A61K8/81K	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by only one carboxyl radical, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Compositions of derivatives of such polymers] [N0209]
A61K8/81K2	. . . . .	[N: Homopolymers or copolymers of acids; Metal or ammonium salts thereof, e.g. crotonic acid, (meth)acrylic acid; Compositions of derivatives of such polymers] [N0209]
A61K8/81K4	. . . . .	[N: Homopolymers or copolymers of esters, e.g. (meth)acrylic acid esters; Compositions of derivatives of such polymers] [N0209]
A61K8/81K6	. . . . .	[N: Homopolymers or copolymers of amides or imides, e.g. (meth)acrylamide; Compositions of derivatives of such polymers] [N0209]
A61K8/81M	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a carboxyl radical, and containing at least one other carboxyl radical in the molecule, or of salts, anhydrides, esters, amides, imides or nitriles thereof; Compositions of derivatives of such polymers, e.g. poly(methyl vinyl ether-co-maleic anhydride)] [N0209]
A61K8/81R	. . . . .	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bond, and at least one being terminated by a single or double bond to nitrogen or by a heterocyclic ring containing nitrogen; Compositions or derivatives of such polymers, e.g. vinylimidazol, vinylcaprolactame, allylamines (Polyquaternium 6)] [N0209][C0405]
A61K8/81R2	. . . . .	[N: Homopolymers of N-vinyl-pyrrolidones. Compositions of derivatives of such polymers] [N0209]
A61K8/81R4	. . . . .	[N: Copolymers of vinyl-pyrrolidones. Compositions of derivatives of such

				polymers] [N0209]
A61K8/81T	.	.	.	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, each having only one carbon-to-carbon double bonds, and at least one being terminated by a bond to sulfur or by a hertocyclic ring containing sulfur; Compositions of derivatives of such polymers] [N0209]
A61K8/81W	.	.	.	[N: Compositions of homopolymers or copolymers of compounds having one or more unsaturated aliphatic radicals, at least one having two or more carbon-to-carbon double bonds; Compositions of derivatives of such polymers] [N0209][C0405]
A61K8/84	.	.	.	obtained by reactions otherwise than those involving only carbon-carbon unsaturated bonds[N0209]
A61K8/85	.	.	.	Polyesters [N0209]
A61K8/86	.	.	.	Polyethers[N0209]
A61K8/87	.	.	.	Polyurethanes[N0209]
A61K8/88	.	.	.	Polyamides[N0209]
A61K8/89	.	.	.	Polysiloxanes[N0209]
A61K8/891	.	.	.	saturated, e.g. dimethicone, phenyl trimethicone, C24-C28 methicone or stearyl dimethicone [N0209] [C0607]
A61K8/892	.	.	.	modified by a hydroxy group, e.g. dimethiconol[N0209][C0705]
A61K8/893	.	.	.	modified by an alkoxy or aryloxy group, e.g. behenoxy dimethicone or stearoxy dimethicone [N0209] [C0704]
A61K8/894	.	.	.	modified by a polyoxyalkylene group, e.g. cetyl dimethicone copolyol [N0209] [C0705]
A61K8/895	.	.	.	containing silicon bound to unsaturated aliphatic groups, e.g. vinyl dimethicone [N0209] [C0705]
A61K8/896	.	.	.	containing atoms other than silicon, carbon, oxygen and hydrogen, e.g. dimethicone copolyol phosphate [N0209] [C0705]
A61K8/897	.	.	.	containing halogen, e.g. fluorosilicones [N0209] [C0705]
A61K8/898	.	.	.	containing nitrogen, e.g. amodimethicone, trimethyl silyl amodimethicone or dimethicone propyl PG-betaine [N0209] [C0705]
A61K8/899	.	.	.	containing sulfur, e.g. sodium PG-propyldimethicone thiosulfate copolyol [N0209] [C0607]
A61K8/90	.	.	.	Block copolymers (A61K8/89 takes precedence) [N0209]
A61K8/91	.	.	.	Graft copolymers (A61K8/89 takes precedence) [N0209]
A61K8/92	.	.	.	Oils, fats or waxes; Derivatives thereof, e.g. hydrogenation products thereof[N0209]
A61K8/92C	.	.	.	[N: of vegetable origin] [N0209]
A61K8/92F	.	.	.	[N: of animal origin] [N0209]
A61K8/92H	.	.	.	[N: of insects, e.g. shellac] [N0209]
A61K8/96	.	.	.	containing material, or derivatives thereof of undetermined constitution[N0209]
A61K8/96C	.	.	.	[N: of inanimate origin] [N0209]
A61K8/97	.	.	.	of vegetable origin, e.g. plant extracts[N0209]
A61K8/97C	.	.	.	[N: Pollen; Algae, Higher fungi] [N0209]
A61K8/98	.	.	.	of animal origin[N0209]
A61K8/98C	.	.	.	[N: of mammals or bird] [N0209]
A61K8/98C2	.	.	.	[N: Reproductive organs; Embryos, Eggs] [N0209]

- A61K8/98C4 . . . . . [N: Blood, e.g. plasma] [N0209]
- A61K8/98C6 . . . . . [N: Skin or skin outgrowth, e.g. hair, nails] [N0209]
- A61K8/98C8 . . . . . [N: Milk; Derivatives thereof, e.g. butter] [N0209]
- A61K8/98F . . . . . [N: of species other than mammals or birds] [N0209]
- A61K8/98F2 . . . . . [N: Honey; Royal jelly, Propolis] [N0209]
- A61K8/99 . . . . . from micro-organisms[N0209]

**A61K9/00**

**Medicinal preparations characterised by special physical form** (nuclear magnetic resonance contrast preparations or magnetic resonance imaging contrast preparations [A61K49/18](#); preparations containing radioactive substances [A61K51/12](#)) [C0605]

**[N: Notes**

Among the one-dot groups of [A61K9/00](#), classification is not made in the last appropriate place.

[A61K9/00](#) is subdivided according to the following concepts:

- the drug release technique ([A61K9/00L](#) and subgroups),
- the site of application ([A61K9/00M](#) and subgroups), and
- the physical form ([A61K9/00Z](#) to [a61K9/70E](#)).

Where relevant, documents are classified in more than one of these subdivisions.

]

- A61K9/00L . . . . . [N: Galenical forms characterised by the drug release technique; Application systems commanded by energy] [C0605]
- A61K9/00L4 . . . . . [N: Osmotic delivery systems; Sustained release driven by osmosis, thermal energy or gas] [C0605]
- A61K9/00L6 . . . . . [N: Effervescent ([A61K9/00M18F](#) takes precedence)] [C0802]
- A61K9/00L8 . . . . . [N: involving or responsive to electricity, magnetism or acoustic waves; Galenical aspects of sonophoresis, iontophoresis, electroporation or electroosmosis (microelectromechanical systems [A61K9/00Z8](#))] [C0605]
- A61K9/00M . . . . . [N: Galenical forms characterised by the site of application] [C0605]
- A61K9/00M3 . . . . . [N: Skin, i.e. galenical aspects of topical compositions (non-active ingredients are additionally classified in [A61K47/00](#); [A61K9/00L8](#), [A61K9/00M5B](#), [A61K9/70D](#), [A61K9/70E](#) take precedence; cosmetic preparations [A61K8/00](#), [A61Q](#); preparations for wound dressings or bandages [A61L26/00](#))] [N0603] [C0802]
- A61K9/00M3B . . . . . [N: Non-human animal skin, e.g. pour-on, spot-on] [N0603]
- A61K9/00M5 . . . . . [N: Injectable compositions; Intramuscular, intravenous, arterial, subcutaneous administration; Compositions to be administered through the skin in an invasive manner (non-active ingredients are additionally classified in [A61K47/00](#))] [N0603]
- A61K9/00M5B . . . . . [N: Intradermal administration, e.g. through microneedle arrays, needleless injectors (mechanical aspects [A61M](#))] [N0605]
- A61K9/00M5D . . . . . [N: Solid, semi-solid or solidifying implants, which are implanted or injected in body tissue (compositions for intravenous administration, normal injectable solutions or dispersions for e.g. subcutaneous administration [A61K9/00M5](#); brain implants [A61K9/00M22](#); (coated) prostheses, catheters or stents [A61L](#))] [N0603]
- A61K9/00M5F . . . . . [N: Blood substitute; Oxygen transporting formulations; Plasma extender] [N0603]
- A61K9/00M5G . . . . . [N: Parenteral nutrition; Parenteral nutrition compositions as drug carriers] [N0605]
- A61K9/00M6 . . . . . [N: Rectum, anus] [C0605]

- A61K9/00M8 . . [N: Urogenital system, e.g. vagina, uterus, cervix, penis, scrotum, urethra, bladder; Personal lubricants] [C0910]
- A61K9/00M8B . . . [N: Devices retained in the vagina or cervix for a prolonged period, e.g. intravaginal rings, medicated tampons, medicated diaphragms] [C0605]
- A61K9/00M8D . . . [N: Devices retained in the uterus for a prolonged period, e.g. intrauterine devices for contraception] [C0605]
- A61K9/00M12 . . [N: Mammary glands, e.g. breasts, udder; Intramammary administration] [C0605]
- A61K9/00M14 . . [N: Nose]
- A61K9/00M15 . . [N: Ear] [N0603]
- A61K9/00M16 . . [N: Eye, e.g. artificial tears] [C9803]
- A61K9/00M16B . . . [N: Ocular inserts, ocular implants] [C0204]
- A61K9/00M18 . . [N: Mouth and digestive tract, i.e. intraoral and peroral administration (rectal administration A61K9/00M6)] [C0605]
- A61K9/00M18B . . . [N: Mouth soluble or dispersible forms; Suckable, eatable, chewable coherent forms; Forms rapidly disintegrating in the mouth; Lozenges; Lollipops; Bite capsules; Baked products; Baits or other oral forms for animals] [C0605]
- A61K9/00M18B2 . . . . [N: Chewing gums (non-medicinal aspects, preparing chewing gum A23G4/00; chewing gum for care of the teeth or oral cavity, e.g. with breath freshener A61Q11/00)] [C0605]
- A61K9/00M18D . . . [N: Oral mucosa, e.g. mucoadhesive forms, sublingual droplets; Buccal patches or films; Buccal sprays] [C0605]
- A61K9/00M18E . . . [N: Periodont]
- A61K9/00M18F . . . [N: Forms with gastric retention, e.g. floating on gastric juice, adhering to gastric mucosa, expanding to prevent passage through the pylorus] [N0603]
- A61K9/00M18G . . . [N: Rumen, e.g. rumen bolus] [N0605]
- A61K9/00M20 . . [N: Pulmonary tract; Aromatherapy] [C0605]
- A61K9/00M20B . . . [N: Sprays or powders for inhalation; Aerolised or nebulised preparations generated by other means than thermal energy; (nasal sprays A61K9/00M14; inhalation of vapours of volatile or heated drugs, e.g. essential oils or nicotine, A61K9/00M20; devices A61M)] [C0802]
- A61K9/00M20B3 . . . . [N: for inhalation via a dry powder inhaler (DPI), e.g. comprising micronized drug mixed with lactose carrier particles] [N0705]
- A61K9/00M20B5 . . . . [N: for inhalation via a nebulizer such as a jet nebulizer, ultrasonic nebulizer, e.g. in the form of aqueous drug solutions or dispersions] [N0705]
- A61K9/00M20B6 . . . . [N: comprising drug dissolved or suspended in liquid propellant for inhalation via a pressurized metered dose inhaler (MDI)] [N0705]
- A61K9/00M20N . . . [N: Lung surfactant, artificial mucus] [N0705]
- A61K9/00M22 . . [N: Brain, e.g. brain implants; Spinal cord] [C9803]
- A61K9/00Z . . [N: Galenical forms not covered by A61K9/02 to A61K9/70E] [N0603]
- A61K9/00Z2 . . [N: Sachets, pouches characterised by the material or function of the envelope (with gastric retention A61K9/00M18F; sachets which are not administered but function merely as a container are classified according to the content, e.g. sachets comprising powder for reconstitution of a drink A61K9/00Z6)] [N0603]
- A61K9/00Z4 . . [N: Hollow drug-filled fibres, tubes of the core-shell type, coated fibres, coated rods, microtubules, nanotubes (fibres of the matrix type containing drug A61K9/70)] [N0603] [C0802]

- A61K9/00Z6 . . [N: Drinks; Beverages; Syrups; Compositions for reconstitution thereof, e.g. powders or tablets to be dispersed in a glass of water; Veterinary drenches ([A61K9/00L6](#) takes precedence; eatable gels or foams [A61K9/00M18B](#); oral mucosa adhesive forms [A61K9/00M18D](#))] [N0603] [C0802]
- A61K9/00Z8 . . [N: Micromachined devices; Microelectromechanical systems (MEMS); Devices obtained by lithographic treatment of silicon; Devices comprising chips (intra-dermal microneedle arrays [A61K9/00M5B](#); MEMS in general [B81B7/02](#))] [N0603]
- A61K9/02 . Suppositories; Bougies; Bases therefor; [N: Ovules] ([N: apparatus for making [A61J3/08](#); devices for introducing into the body [A61M31/00](#))] [C1206]
- A61K9/02K . . [N: characterised by shape or structure, e.g. hollow layered, coated] [C9803]
- A61K9/06 . Ointments; Bases therefor; [N: Other semi-solid forms, e.g. creams, sticks, gels (composition of ointments, creams or gels [A61K47/00](#))] [C0802]
- [N: **WARNING**  
incomplete, see also [A61K9/00M](#), [A61K47/00](#) [N0802]  
]
- A61K9/08 . Solutions; [N: (composition of solutions [A61K47/00](#))] [C0802]
- [N: **WARNING**  
incomplete, see also [A61K9/00M](#), [A61K47/00](#), [A61K9/00Z6](#) [N0802]  
]
- A61K9/10 . Dispersions; Emulsions; [N: ([A61K9/06](#) takes precedence; composition of dispersions, emulsions [A61K47/00](#))] [C0802]
- [N: **WARNING**  
incomplete, see also [A61K9/00M](#), [A61K47/00](#), [A61K9/00Z6](#) [N0802]  
]
- A61K9/107 . . Emulsions; [N: Emulsion pre-concentrates; Micelles (composition of emulsions [A61K47/00](#))] [C0802]
- [N: **WARNING**  
incomplete, see also [A61K9/00M](#), [A61K47/00](#), [A61K9/00Z6](#) [N0802]  
]
- A61K9/107D . . . [N: Microemulsions or submicron emulsions; Pre-concentrates or solids thereof; Micelles, e.g. made of phospholipids or block copolymers ([A61K9/00M5F](#) takes precedence)] [C1009]
- A61K9/113 . . . Multiple emulsions, e.g. oil-in-water-in-oil; [N: ([A61K9/00M5F](#) takes precedence)] [C0802]
- A61K9/12 . . Aerosols; Foams [N: ([A61K9/00M14](#), [A61K9/00M18B](#), [A61K9/00M18D](#), [A61K9/00M20B](#) take precedence; spray-films [A61K9/70D](#))] [C0605]
- A61K9/12B . . . [N: Foams; Dry foams (edible foams [A61K9/00M18B](#))] [C9803]
- A61K9/12D . . . [N: characterised by the propellant]
- A61K9/127 . . Liposomes
- A61K9/127B . . . [N: Non-conventional liposomes, e.g. PEGylated liposomes, liposomes coated with polymers (see also [A61K47/48W6D](#))] [C0802]
- A61K9/127B2 . . . . [N: with substantial amounts of non-phosphatidyl, i.e. non-acylglycerophosphate, surfactants as bilayer-forming substances, e.g. cationic lipids (with cholesterol as the only non-phosphatidyl surfactant [A61K9/127](#); cationic lipid/DNA complexes see also [A61K47/48H4F](#))] [C0802]

- A61K9/127B4 . . . . [N: Polymersomes; Liposomes with polymerisable or polymerised bilayer-forming substances (polymers grafted or coated on phosphatidyl liposomes [A61K9/127B](#), on non-phosphatidyl liposomes [A61K9/127B2](#) )] [C1009]
- A61K9/127K . . . . [N: Non-vesicle bilayer structures, e.g. liquid crystals, tubules, cubic phases, cochleates; Sponge phases] [C0204]
- A61K9/127M . . . . [N: Lipoproteins; Chylomicrons; Artificial HDL, LDL, VLDL, protein-free species thereof; Precursors thereof] [C9803]
- A61K9/127N . . . . [N: Globules of milk or constituents thereof]
- A61K9/127P . . . . [N: Processes for preparing; Proliposomes] [C9803]
- A61K9/127P2 . . . . [N: Post-loading, e.g. by ion or pH gradient] [C0802]
  
- A61K9/14 . . . . Particulate form, e.g. powders, [N: Processes for size reducing of pure drugs or the resulting products, Pure drug nanoparticles (microspheres [A61K9/16](#); microcapsules [A61K9/50](#); nanocapsules, nanoparticles of the matrix type [A61K9/51](#))] [C0307]
- A61K9/14H . . . . [N: Intimate drug-carrier mixtures characterised by the carrier, e.g. ordered mixtures, adsorbates, solid solutions, eutectica, co-dried, co-solubilised, co-kneaded, co-milled, co-ground products, co-precipitates, co-evaporates, co-extrudates, co-melts; Drug nanoparticles with adsorbed surface modifiers ((co)spray-dried products [A61K9/16](#), (co)lyophilised products [A61K9/19](#); the carrier being chemically bound to the active ingredient [A61K47/48](#))] [C0802]
- A61K9/14H2 . . . . [N: with inorganic compounds]
- A61K9/14H4 . . . . [N: with organic compounds] [C0204]
- A61K9/14H6 . . . . [N: with organic macromolecular compounds] [C0204]
- A61K9/14H8 . . . . [N: with compounds of unknown constitution, e.g. material from plants or animals (with oils, fats, waxes, shellac [A61K9/14H4](#))] [C0802]
- A61K9/16 . . . . Agglomerates; Granulates; Microbeadlets; [N: Microspheres; Pellets; Solid products obtained by spray drying, spray freeze drying, spray congealing, (multiple) emulsion solvent evaporation or extraction ([A61K9/20](#) takes precedence if the final form is a tablet; microspheres with drug-free outer coating, microcapsules [A61K9/50](#); mixture of different granules, microcapsules, (coated) microparticles [A61K9/50M](#); nanoparticles [A61K9/51](#))] [C0802]
- A61K9/16H . . . . [N: Excipients; Inactive ingredients] [C0802]
- A61K9/16H2 . . . . [N: Inorganic compounds]
- A61K9/16H4 . . . . [N: Organic compounds, e.g. phospholipids, fats] [C0802]
- A61K9/16H4B . . . . [N: Sugars or sugar alcohols, e.g. lactose; Derivatives thereof; Homeopathic globules] [C0802]
- A61K9/16H6 . . . . [N: Organic macromolecular compounds]
- A61K9/16H6B . . . . [N: obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates] [C0802]
- A61K9/16H6D . . . . [N: obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poloxamers] [C0802]
- A61K9/16H6D4 . . . . [N: Polyesters, e.g. poly(lactide-co-glycolide)] [C0802]
- A61K9/16H6F . . . . [N: Polysaccharides, e.g. alginate, cellulose derivatives; Cyclodextrin (homeopathic globules [A61K9/16H4B](#))] [C0802]
- A61K9/16H6H . . . . [N: Proteins, e.g. albumin, gelatin] [C0802]
- A61K9/16H8 . . . . [N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K9/16H4](#))] [C0802]

- A61K9/16K . . . [N: with an outer layer or coating comprising drug; with chemically bound drugs or non-active substances on their surface (with further drug-free outer coating [A61K9/50K](#))] [N9803] [C0802]
- A61K9/16K2 . . . . [N: having a drug-free core with discrete complete coating layer containing drug (adsorbates of liquid drug formulations on inert powders without simultaneous granulation step [A61K9/14H](#); with further drug-free outer coating [A61K9/50K2](#); drug conjugated to non-active particles [A61K47/48W8](#))] [C0802]
- A61K9/16P . . . [N: Processes]
- A61K9/16P2 . . . . [N: resulting in pure drug agglomerate optionally containing up to 5% of excipient] [C0802]
- A61K9/16P4 . . . . [N: resulting in granules or microspheres of the matrix type containing more than 5% of excipient] [C0802]
- A61K9/19 . . lyophilised, [N: i.e. freeze-dried, solutions or dispersions (lyophilised products with subsequent particle size reduction [A61K9/14](#); granules or pellets made by lyophilisation [A61K9/16P](#); solid oral dosage forms made by lyophilisation [A61K9/20P](#); lyophilisation additives [A61K47/00](#))] [N9507] [C0802]
- A61K9/20 . Pills, tablets, [N: discs, rods (A61K9/00L4, A61K9/00L6, A61K9/00M18B, A61K9/00M18F take precedence; for reconstitution of a drink [A61K9/00Z6](#))] [C0605]
- A61K9/20H . . [N: Excipients; Inactive ingredients] [C0802]
- A61K9/20H2 . . . [N: Inorganic compounds]
- A61K9/20H4 . . . [N: Organic compounds, e.g. phospholipids, fats] [C0802]
- A61K9/20H4B . . . . [N: Sugars, or sugar alcohols, e.g. lactose, mannitol; Derivatives thereof, e.g. polysorbates] [C0802]
- A61K9/20H6 . . . [N: Organic macromolecular compounds]
- A61K9/20H6B . . . . [N: obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates] [C0802]
- A61K9/20H6D . . . . [N: obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyethylene oxide, poloxamers] [C0802]
- A61K9/20H6D2 . . . . . [N: Silicones; Polysiloxanes]
- A61K9/20H6D4 . . . . . [N: Polyesters, e.g. poly(lactide-co-glycolide)] [C0802]
- A61K9/20H6D6 . . . . . [N: Polyamides; Polyaminoacids, e.g. polylysine] [C0802]
- A61K9/20H6F . . . . . [N: Polysaccharides, e.g. alginate, gums; Cyclodextrin] [C0802]
- A61K9/20H6F2 . . . . . [N: Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose] [C0802]
- A61K9/20H6F4 . . . . . [N: Starch, including chemically or physically modified derivatives; Amylose; Amylopectin; Dextrin] [C0802]
- A61K9/20H6H . . . . . [N: Proteins, e.g. gelatin] [C0802]
- A61K9/20H8 . . . . [N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K9/20H4](#))] [C0802]
- A61K9/20K . . [N: characterised by shape, structure or size; Tablets with holes, special break lines or identification marks; Partially coated tablets; Disintegrating flat shaped forms ([A61K9/00L4](#), [A61K9/00M18B](#), [A61K9/00M18F](#) take precedence)] [C0802]
- A61K9/20K2 . . . [N: Tablets comprising drug-containing microparticles in a substantial amount of supporting matrix; Multiparticulate tablets] [C0802]
- A61K9/20K2B . . . . [N: with microcapsules or coated microparticles according to [A61K9/50](#)] [C0802]

- A61K9/20K4 . . . [N: Layered tablets, e.g. bilayer tablets; Tablets of the type inert core-active coat (active cores with a complete drug-free outer coat [A61K9/28](#))] [C0802]
- A61K9/20K4B . . . . [N: containing drug in at least two layers or in the core and in at least one outer layer] [C9803]
- A61K9/20P . . [N: Tableting processes; Dosage units made by direct compression of powders or specially processed granules, by eliminating solvents, by melt-extrusion, by injection molding, by 3D printing (mechanical aspects [A61J3/00](#))] [C0802]
- A61K9/28 . . Dragees; Coated pills or tablets [N: e.g. with film or compression coating ([A61K9/20K](#) takes precedence, e.g. partially coated tablets [A61K9/20K](#), coated multilayer tablets [A61K9/20K4](#), tablets with drug-coated core [A61K9/20K4B](#))] [C0802]
- A61K9/28H . . . [N: Coating materials] [C9803]
- A61K9/28H2 . . . . [N: Inorganic compounds]
- A61K9/28H4 . . . . [N: Organic compounds, e.g. fats] [C0802]
- A61K9/28H4B . . . . . [N: Sugars or sugar alcohols, e.g. sucrose; Derivatives thereof] [C0802]
- A61K9/28H6 . . . . . [N: Organic macromolecular compounds]
- A61K9/28H6B . . . . . [N: obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone] [C0802]
- A61K9/28H6B2 . . . . . . [N: Poly(meth)acrylates] [C0802]
- A61K9/28H6D . . . . . [N: obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyethylene oxide, poloxamers, poly(lactide-co-glycolide)] [C0802]
- A61K9/28H6F . . . . . [N: Polysaccharides, e.g. gums; Cyclodextrin] [C0802]
- A61K9/28H6F2 . . . . . . [N: Cellulose; Cellulose derivatives, e.g. hydroxypropyl methylcellulose] [C0802]
- A61K9/28H6H . . . . . [N: Proteins, e.g. gelatin] [C0802]
- A61K9/28H8 . . . . . [N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K9/28H4](#))] [C0802]
- A61K9/28K . . . [N: having two or more different drug-free coatings; Tablets of the type inert core-drug layer-inactive layer (of the type active core-drug layer-inactive layer [A61K9/20K4B](#))] [C0802]
- A61K9/28P . . . [N: Tablet coating processes (mechanical aspects [A61J3/06](#))] [C0802]
- A61K9/48 . Preparations in capsules, e.g. of gelatin, of chocolate; [N: ([A61K9/00L4](#) takes precedence; bite capsules [A61K9/00M18B](#))] [C0802]
- A61K9/48A . . [N: characterised by the form of the capsule or the structure of the filling; Capsules containing small tablets; Capsules with outer layer for immediate drug release (capsules filled with granules or microparticles [A61K9/16](#); filled with microcapsules or coated microparticles [A61K9/50](#); with mixture of different granules, microcapsules, (coated) microparticles [A61K9/50M](#))] [C0802]
- A61K9/48B . . [N: Wall or shell material] [C0802]
- A61K9/48B1 . . . [N: Proteins, e.g. gelatin (gelatin capsule shells with substantial amounts of other macromolecular substances [A61K9/48B](#))] [C0802]
- A61K9/48C . . [N: Encapsulating processes; Filling of capsules (mechanical aspects [A61J3/07](#))]
- A61K9/48H . . [N: Filling excipients; Inactive ingredients] [C0802]
- A61K9/48H2 . . . [N: Inorganic compounds]
- A61K9/48H4 . . . [N: Organic compounds]
- A61K9/48H6 . . . [N: Organic macromolecular compounds]

A61K9/48H8	. . .	[N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac <a href="#">A61K9/48H4</a> )] [C0802]
A61K9/48P	. .	[N: Capsule finishing, e.g. dyeing, aromatising, polishing]
A61K9/48Z	. .	[N: Coated capsules; Multilayered drug free capsule shells (with drug coating for immediate release <a href="#">A61K9/48A</a> ; osmotic devices <a href="#">A61K9/00L4</a> )] [C0802]
A61K9/50	. .	Microcapsules [N: having a gas, liquid or semi-solid filling; Solid microparticles or pellets surrounded by a distinct coating layer, e.g. coated microspheres, coated drug crystals ( <a href="#">A61K9/20K2B</a> takes precedence; particles with a single coating comprising drug <a href="#">A61K9/16K</a> )] [C0802]
A61K9/50H	. . .	[N: Wall or coating material] [C0802]
A61K9/50H2	. . . .	[N: Inorganic compounds]
A61K9/50H4	. . . .	[N: Organic compounds, e.g. fats, sugars] [C0802]
A61K9/50H6	. . . .	[N: Organic macromolecular compounds]
A61K9/50H6B	. . . . .	[N: obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates] [C0802]
A61K9/50H6D	. . . . .	[N: obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, poly(lactide-co-glycolide)] [C0802]
A61K9/50H6F	. . . . .	[N: Polysaccharides, e.g. gums, alginate; Cyclodextrin] [C0802]
A61K9/50H6F2	. . . . .	[N: Cellulose; Cellulose derivatives, e.g. phthalate or acetate succinate esters of hydroxypropyl methylcellulose] [C0802]
A61K9/50H6F2B	. . . . .	{7 dots} [N: Cellulose ethers containing no ester groups, e.g. hydroxypropyl methylcellulose] [C0802]
A61K9/50H6H	. . . . .	[N: Proteins, e.g. albumin] [C0802]
A61K9/50H6H2	. . . . .	[N: Gelatin]
A61K9/50H8	. . . .	[N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac <a href="#">A61K9/50H4</a> )] [C0802]
A61K9/50H8B	. . . . .	[N: Cell membranes or bacterial membranes enclosing drugs (with additional exogenous lipids <a href="#">A61K9/127</a> ; virus envelopes <a href="#">A61K9/51H8B</a> )] [C1009]
A61K9/50K	. . .	[N: having two or more different coatings optionally including drug-containing subcoatings] [C9803]
A61K9/50K2	. . . .	[N: with drug-free core] [C0802]
A61K9/50M	. . .	[N: Mixtures of one or more drugs in different galenical forms, at least one of which being granules, microcapsules or (coated) microparticles according to <a href="#">A61K9/16</a> or <a href="#">A61K9/50</a> , e.g. for obtaining a specific release pattern or for combining different drugs (tablets containing such a mixture <a href="#">A61K9/20K2</a> )] [C0802]
A61K9/50P	. . .	[N: Processes]
A61K9/50T	. . .	[N: Microcapsules containing magnetic carrier material, e.g. ferrite for drug targeting]
A61K9/51	. . .	Nanocapsules; [N: Nanoparticles; (nanotubes <a href="#">A61K9/00Z4</a> ; polymeric micelles <a href="#">A61K9/107D</a> ; polymersomes <a href="#">A61K9/127B4</a> ; pure drug nanoparticles <a href="#">A61K9/14</a> ; drug nanoparticles with adsorbed surface modifiers <a href="#">A61K9/14H</a> ; conjugates, e.g. between drug and non-active nanoparticles, <a href="#">A61K47/48</a> ; preparations for in vivo diagnosis <a href="#">A61K49/00</a> ; with radioactive substances <a href="#">A61K51/00</a> )] [C1009]
A61K9/51H	. . . .	[N: Excipients; Inactive ingredients] [N1009]
A61K9/51H2	. . . . .	[N: Inorganic compounds] [N1009]
A61K9/51H4	. . . . .	[N: Organic compounds, e.g. fats, sugars] [N1009]

- A61K9/51H6 . . . . . [N: Organic macromolecular compounds; Dendrimers] [N1009]
- A61K9/51H6B . . . . . [N: obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyvinyl pyrrolidone, poly(meth)acrylates] [N1009]
- A61K9/51H6D . . . . . [N: obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyethylene glycol, polyamines, polyanhydrides] [N1009]
- A61K9/51H6D4 . . . . . {7 dots} [N: Polyesters, e.g. poly(lactide-co-glycolide)] [N1009]
- A61K9/51H6F . . . . . [N: Polysaccharides, e.g. alginate, chitosan, cellulose derivatives; Cyclodextrin] [N1009]
- A61K9/51H6H . . . . . [N: Proteins, e.g. albumin, gelatin] [N1009]
- A61K9/51H8 . . . . . [N: Compounds of unknown constitution, e.g. material from plants or animals (oils, fats, waxes, shellac [A61K9/51H4](#))] [N1009]
- A61K9/51H8B . . . . . [N: Virus capsids or envelopes enclosing drugs (with additional exogenous lipids [A61K9/127](#); bacterial membranes [A61K9/50H8B](#))] [N1009]
- A61K9/51P . . . . . [N: Processes] [N1009]
- A61K9/70 . . . . . Web, sheet or filament bases; [N: Films; Fibres of the matrix type containing drug; (hollow drug-filled fibres [A61K9/00Z4](#); bandages, dressings or absorbent pads [A61F13/00](#), chemical aspects thereof [A61L15/00](#))] [C0802]
- A61K9/70B . . . . . [N: Drug-containing films, membranes or sheets([A61K9/00M12](#),[A61K9/00M14](#),[A61K9/00M18D](#),[A61K9/00M18E](#)take precedence)] [C0204]
- A61K9/70D . . . . . [N: Drug-containing film-forming compositions, e.g. spray-on] [C0307]
- A61K9/70E . . . . . [N: Transdermal patches and similar drug-containing composite devices, e.g. cataplasms (galenical aspects of iontophoretic devices [A61K9/00L8](#); microneedle arrays [A61K9/00M5B](#); buccal patches [A61K9/00M18D](#))] [C1206]
- A61K9/70E2 . . . . . [N: characterised by shape or structure; Details concerning release liner or backing; Refillable patches; User-activated patches] [N1004]
- A61K9/70E2B . . . . . [N: Transdermal patches of the drug-in-adhesive type, i.e. comprising drug in the skin-adhesive layer] [N1004]
- A61K9/70E2B6 . . . . . [N: the adhesive comprising macromolecular compounds] [N1004]
- A61K9/70E2B6B . . . . . [N: obtained by reactions only involving carbon to carbon unsaturated bonds, e.g. polyvinyl, polyisobutylene, polystyrene] [N1004]
- A61K9/70E2B6B2 . . . . . {7 dots} [N: Polyacrylates] [N1004]
- A61K9/70E2B6D . . . . . [N: obtained otherwise than by reactions only involving carbon to carbon unsaturated bonds, e.g. polysiloxane, polyesters, polyurethane, polyethylene oxide] [N1004]
- A61K9/70E2B8 . . . . . [N: the adhesive comprising ingredients of undetermined constitution or reaction products thereof, e.g. rosin or other plant resins] [N1004]
- A61K9/70E2D . . . . . [N: Transdermal patches having a drug layer or reservoir, and one or more separate drug-free skin-adhesive layers, e.g. between drug reservoir and skin, or surrounding the drug reservoir; Liquid-filled reservoir patches] [N1004]
- A61K9/70E2K . . . . . [N: Transdermal patches having multiple drug layers or reservoirs, e.g. for obtaining a specific release pattern, or for combining different drugs] [N1004]

**A61K31/00****Medicinal preparations containing organic active ingredients**[N: **Notes**]

]

- A61K31/01 . Hydrocarbons [C0302]
- A61K31/015 . . carbocyclic
- A61K31/02 . Halogenated hydrocarbons [C0302]
- A61K31/025 . . carbocyclic
- A61K31/03 . . . aromatic
- A61K31/035 . . having aliphatic unsaturation [C9509]
- A61K31/04 . Nitro compounds[C0302]
- A61K31/045 . Hydroxy compounds, e.g. alcohols; Salts thereof, e.g. alcoholates [C0302]
- A61K31/047 . . having two or more hydroxy groups, e.g. sorbitol[N0302]
- A61K31/05 . . Phenols
- A61K31/055 . . . the aromatic ring being substituted by halogen
- A61K31/06 . . . the aromatic ring being substituted by nitro groups
- A61K31/065 . . Diphenyl-substituted acyclic alcohols [C9509]
- A61K31/07 . . Retinol compounds, e.g. vitamin A (retinoic acids [A61K31/203](#)) [C0302]
- A61K31/075 . Ethers or acetals[C0302]
- A61K31/08 . . acyclic, e.g. paraformaldehyde
- A61K31/085 . . having an ether linkage to aromatic ring nuclear carbon
- A61K31/09 . . . having two or more such linkages
- A61K31/095 . Sulfur, selenium, or tellurium compounds, e.g. thiols [C0302]
- A61K31/10 . . Sulfides; Sulfoxides ; Sulfones [C0302]
- A61K31/105 . . Persulfides (thiuram disulfides [A61K31/145](#); thiosulfonic acids [A61K31/185](#))
- A61K31/11 . Aldehydes [C0302]
- A61K31/115 . . Formaldehyde
- A61K31/12 . Ketones [C0302]
- A61K31/121 . . acyclic[N0302]
- A61K31/122 . . having the oxygen directly attached to a ring, e.g. quinones, vitamin K1, anthralin[N0302]
- A61K31/125 . . . Camphor; Nuclear substituted derivatives thereof
- A61K31/13 . Amines [N: ([A61K31/04](#) takes precedence)] [C0302]
- A61K31/131 . . acyclic[N0302]
- A61K31/132 . . having two or more amino groups, e.g. spermidine, putrescine[N0302]
- A61K31/133 . . having hydroxy groups, e.g. sphingosine[N0302]
- A61K31/135 . . having aromatic rings [N: e.g. ketamine, nortriptyline (methadone [A61K31/137](#))] [C1204]

- A61K31/136 . . . having the amino group directly attached to the aromatic ring, e.g. benzeneamine[N0302]
- A61K31/137 . . . Arylalkylamines, e.g. amphetamine, epihephrine, salbutamol, ephedrine [N: or methadone] [N0302] [C1204]
- A61K31/138 . . . Aryloxyalkylamines, e.g. propanolol, tamoxifen, phenoxybenzamine (atenolol A61K31/165; pindolol A61K31/404; timolol A61K31/5377)[N0302]
- A61K31/14 . . . Quaternary ammonium compounds, e.g. edrophonium, choline (betaines A61K31/205) [M1204]
- A61K31/145 . . . having sulfur, e.g. thiurams (>N-C(S)-S-C(S)-N< and >N-C(S)-S-S-C(S)-N<), Sulfinylamines (-N=SO), Sulfonylamines (-N=SO<sub>2</sub>) (isothiourea A61K31/155) [C1204]
- A61K31/15 . . . Oximes (>C=N-O); Hydrazines (>N-N<); Hydrazones (>N-N=) [N: Imines (C-N=C)] [C1204]
- A61K31/155 . . . Amidines (-N=C-N-), e.g. guanidine (H<sub>2</sub>N-C(=NH)-NH<sub>2</sub>), isourea (N=C(OH)-NH<sub>2</sub>), isothiourea (-N=C(SH)-NH<sub>2</sub>)[M1204]
- A61K31/16 . . . Amides, e.g. hydroxamic acids [C1204]
- A61K31/164 . . . of a carboxylic acid with an aminoalcohol, e.g. ceramides[N0303]
- A61K31/165 . . . having aromatic rings, e.g. colchicine, atenolol, progabide [C1204]
- A61K31/166 . . . having the carbon of a carboxamide group directly attached to the aromatic ring, e.g. procainamide, procarbazine, metoclopramide, labetalol [N0303] [M1204]
- A61K31/167 . . . having the nitrogen of a carboxamide group directly attached to the aromatic ring, e.g. lidocaine, paracetamol [N0303] [M1204]
- A61K31/17 . . . having the group >N-C(O)-N< or >N-C(S)-N<, e.g. urea, thiourea, carmustine (isoureas, isothioureas A61K31/155; sulfonylureas A61K31/64) [N0303] [M1204]
- A61K31/175 . . . having the group  $\text{>N-C}(\text{O})\text{-N=N-}$  or  $\text{>N-C}(\text{O})\text{-N=N-}$  or  $\text{>N-C}(\text{O})\text{-N=N=}$ , e.g. carbonohydrazides, carbazones, semicarbazides, semicarbazones; Thioanalogues thereof [N0303]
- A61K31/18 . . . Sulfonamides (compounds containing a para-N-benzene-sulfonyl-N- group A61K31/63)
- A61K31/185 . . . Acids; Anhydrides, halides or salts thereof, e.g. sulfur acids, imidic, hydrazonic, hydroxamic acids (hydroxamic acids A61K31/16; peroxy acids A61K31/327) [C1204]

**Note**

Cyclic anhydrides are considered to be heterocyclic rings

- A61K31/19 . . . Carboxylic acids, e.g. valproic acid (Salicylic acid A61K31/60) [C1204]
- A61K31/191 . . . having two or more hydroxy groups, e.g. gluconic acid[N0303]
- A61K31/192 . . . having aromatic groups, e.g. sulindac, 2-arylpropionic acids, ethacrynic acid [N0303] [M1204]
- A61K31/194 . . . having two or more carboxyl groups, e.g. succinic, maleic or phthalic acid[N0303]
- A61K31/195 . . . having an amino group [C0303]
- A61K31/196 . . . the amino group being directly attached to a ring, e.g. anthranilic acid, mefenamic acid, diclofenac, chlorambucil[N0303]
- A61K31/197 . . . the amino and the carboxyl group being attached to the same acyclic carbon chain, e.g. gamma-aminobutyric acid (GABA), beta-alanine, epsilon-aminocaproic acid, pantothenic acid (carnitine A61K31/205)[N0303] [M1204]

- A61K31/198 . . . . . Alpha-aminoacids, e.g. alanine, edetic acids (EDTA), (betaine [A61K31/205](#); proline [A61K31/401](#); tryptophan [A61K31/405](#); histidine [A61K31/4172](#); peptides not degraded to individual aminoacids [A61K38/00](#)) [N0303] [M1204]
- A61K31/20 . . . . . having a carboxyl group bound to a chain of seven or more carbon atoms, e.g. stearic, palmitic, arachidic acids [C0303]
- A61K31/201 . . . . . having one or two double bonds, e.g. oleic, linoleic acids [N0303] [M1204]
- A61K31/202 . . . . . having three or more double bonds, e.g. linolenic (eicosanoids, e.g. leukotrienes [A61K31/557](#)) [N0303]
- A61K31/203 . . . . . Retinoic acids [N: Salts thereof] [N0303] [C1204]
- A61K31/205 . . . . . Amine addition salts of organic acids; Inner quaternary ammonium salts, e.g. betaine, carnitine [C0303]
- A61K31/21 . . . . . Esters, e.g. nitroglycerine, selenocyanates [C0303]
- A61K31/215 . . . . . of carboxylic acids
- A61K31/216 . . . . . of acids having aromatic rings, e.g. benactizyne, clofibrate [N0303] [C1204]
- A61K31/22 . . . . . of acyclic acids, e.g. pravastatin [C0303]
- A61K31/221 . . . . . with compounds having an amino group, e.g. acetylcholine, acetylcarnitine [N0303]
- A61K31/222 . . . . . with compounds having aromatic groups, e.g. dipivefrine, ibopamine [N0303]
- A61K31/223 . . . . . of alpha-aminoacids [N0303]
- A61K31/225 . . . . . Polycarboxylic acids
- A61K31/23 . . . . . of acids having a carboxyl group bound to a chain of seven or more carbon atoms [C0303]
- A61K31/231 . . . . . having one or two double bonds [N0303]
- A61K31/232 . . . . . having three or more double bonds, e.g. etretinate [N0303]
- A61K31/235 . . . . . having an aromatic ring attached to a carboxyl group
- A61K31/24 . . . . . having an amino or nitro group
- A61K31/245 . . . . . Amino benzoic acid types, e.g. procaine, novocaine (salicylic acid esters [A61K31/60](#)) [M1204]
- A61K31/25 . . . . . with polyoxyalkylated alcohols, e.g. esters of polyethylene glycol
- A61K31/255 . . . . . of sulfoxy acids or sulfur analogues thereof
- A61K31/26 . . . . . Cyanate or isocyanate esters; Thiocyanate or isothiocyanate esters [C0303]
- A61K31/265 . . . . . of carbonic, thiocarbonic, or thiocarboxylic acids, e.g. thioacetic acid, xanthogenic acid, trithiocarbonic acid
- A61K31/27 . . . . . of carbamic or thiocarbamic acids, meprobamate, carbachol, neostigmine [C0303]
- A61K31/275 . . . . . Nitriles; Isonitriles [C0303]
- A61K31/277 . . . . . having a ring, e.g. verapamil [N0303]
- A61K31/28 . . . . . Compounds containing heavy metals [C0303]
- A61K31/282 . . . . . Platinum compounds [N0303]
- A61K31/285 . . . . . Arsenic compounds
- A61K31/29 . . . . . Antimony or bismuth compounds
- A61K31/295 . . . . . Iron group metal compounds
- A61K31/30 . . . . . Copper compounds

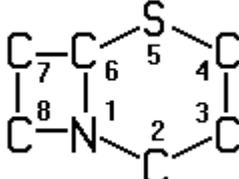
- A61K31/305 . . Mercury compounds
- A61K31/31 . . . containing nitrogen
- A61K31/315 . . Zinc compounds
- A61K31/32 . . Tin compounds
  
- A61K31/325 . Carbamic acids; Thiocarbamic acids; Anhydrides or salts thereof ([thiurams A61K31/145](#)) [C0303]
  
- A61K31/327 . Peroxy compounds, e.g. hydroperoxides, peroxides, peroxyacids[N0303]
  
- A61K31/33 . Heterocyclic compounds
- A61K31/335 . . having oxygen as the only ring hetero atom, e.g. fungichromin [C0303]
- A61K31/336 . . . having three-membered rings, e.g. oxirane, fumagillin[N0303]
- A61K31/337 . . . having four-membered rings, e.g. taxol[N0303]
- A61K31/34 . . . having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide [C0303]
- A61K31/341 . . . . not condensed with another ring, e.g. ranitidine, furosemide, bufetolol, muscarine[N0303]
- A61K31/343 . . . . condensed with a carbocyclic ring, e.g. coumaran, bufuralol, befunolol, clobenfurol, amiodarone[N0303]
- A61K31/345 . . . . Nitrofurans ([nitrofurantoin A61K31/4178](#)) [C0303]
- A61K31/35 . . . having six-membered rings with one oxygen as the only ring hetero atom
- A61K31/351 . . . . not condensed with another ring[N0303]
- A61K31/352 . . . . condensed with carbocyclic rings, e.g. cannabinols, methantheline[N0303]
- A61K31/353 . . . . . 3,4-Dihydrobenzopyrans, e.g. chroman, catechin[N0303]
- A61K31/355 . . . . . Tocopherols, e.g. vitamin E
- A61K31/357 . . . having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel[N0303]
- A61K31/36 . . . Compounds containing methylenedioxyphenyl groups, e.g. sesamin [M1204]
- A61K31/365 . . . Lactones
- A61K31/366 . . . . having six-membered rings, e.g. delta-lactones[N0303]
- A61K31/37 . . . . Coumarins, e.g. psoralen [M1204]
- A61K31/375 . . . . Ascorbic acid, i.e. vitamin C; Salts thereof
- A61K31/38 . . having sulfur as a ring hetero atom
- A61K31/381 . . . having five-membered rings[N0303]
- A61K31/382 . . . having six-membered rings, e.g. thioxanthenes ([thiotixene A61K31/496](#))[N0303]
- A61K31/385 . . . having two or more sulfur atoms in the same ring
- A61K31/39 . . . having oxygen in the same ring
- A61K31/395 . . having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins ([rifampin A61K31/496](#)) [C9509]
- A61K31/396 . . . having three-membered rings, e.g. aziridine[N0303]
- A61K31/397 . . . having four-membered rings, e.g. azetidine[N0303]
- A61K31/40 . . . having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil [C0303]
- A61K31/401 . . . . Proline; Derivatives thereof, e.g. captopril[N0303]

A61K31/4015	. . . .	having oxo groups directly attached to the heterocyclic ring, e.g. piracetam, ethosuximide [N0303] [M1204]
A61K31/402	. . . .	1-aryl substituted, e.g. piretanide[N0303]
A61K31/4025	. . . .	not condensed and containing further heterocyclic rings, e.g. cromakalim [N0303] [M1204]
A61K31/403	. . . .	condensed with carbocyclic rings, e.g. carbazole[N0303]
A61K31/4035	. . . .	. Isoindoles, e.g. phthalimide[N0303]
A61K31/404	. . . .	. Indoles, e.g. pindolol[N0303]
A61K31/4045	. . . .	. Indole-alkylamines; Amides thereof, e.g. serotonin, melatonin[N0303]
A61K31/405	. . . .	. Indole-alkanecarboxylic acids; Derivatives thereof, e.g. tryptophan, indomethacin [M1204]
A61K31/407	. . . .	condensed with other heterocyclic ring systems, e.g. ketorolac, physostigmine[N0303]
A61K31/409	. . . .	having four such rings, e.g. porphine derivatives, bilirubin, biliverdine (hemin, hematin A61K31/555)[N0303] [M1204]
A61K31/41	. . . .	having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole [C0303]
A61K31/415	. . . .	. 1,2-Diazoles [C0303]
A61K31/4152	. . . .	. having oxo groups directly attached to the heterocyclic ring, e.g. antipyrine, phenylbutazone, sulfinpyrazone [N0303] [M1204]
A61K31/4155	. . . .	. non condensed and containing further heterocyclic rings[N0303]
A61K31/416	. . . .	. condensed with carbocyclic ring systems, e.g. indazole[N0303]
A61K31/4162	. . . .	. condensed with heterocyclic ring systems [N0303] [M1204]
A61K31/4164	. . . .	. 1,3-Diazoles[N0303]
A61K31/4166	. . . .	. having oxo groups directly attached to the heterocyclic ring, e.g. phenytoin [N0303] [M1204]
A61K31/4168	. . . .	. having a nitrogen attached in position 2, e.g. clonidine[N0303]
A61K31/417	. . . .	. Imidazole-alkylamines, e.g. histamine, phentolamine[N0303]
A61K31/4172	. . . .	. Imidazole-alkanecarboxylic acids, e.g. histidine[N0303]
A61K31/4174	. . . .	. Arylalkylimidazoles, e.g. oxymetazolin, naphazoline, miconazole[N0303]
A61K31/4178	. . . .	. not condensed 1,3-diazoles and containing further heterocyclic rings, e.g. pilocarpine, nitrofurantoin[N0303]
A61K31/4184	. . . .	. condensed with carbocyclic rings, e.g. benzimidazoles[N0303]
A61K31/4188	. . . .	. condensed with other heterocyclic ring systems, e.g. biotin, sorbinil[N0303]
A61K31/4192	. . . .	. 1,2,3-Triazoles [N0303] [M1204]
A61K31/4196	. . . .	. 1,2,4-Triazoles [N0303] [M1204]
A61K31/42	. . . .	. Oxazoles [C0303]
A61K31/421	. . . .	. 1,3-Oxazoles, e.g. pemoline, trimethadione[N0303]
A61K31/422	. . . .	. not condensed and containing further heterocyclic rings[N0303]
A61K31/423	. . . .	. condensed with carbocyclic rings[N0303]
A61K31/424	. . . .	. condensed with heterocyclic ring systems, e.g. clavulanic acid[N0303]
A61K31/4245	. . . .	. Oxadiazoles [N0303] [M1204]
A61K31/425	. . . .	. Thiazoles [C0303]
A61K31/426	. . . .	. 1,3-Thiazoles[N0303]

- A61K31/427 . . . . . not condensed and containing further heterocyclic rings[N0303]
- A61K31/428 . . . . . condensed with carbocyclic rings[N0303]
- A61K31/429 . . . . . condensed with heterocyclic ring systems[N0303]
- A61K31/43 . . . . . Compounds containing 4-thia-1-azabicyclo [3.2.0] heptane ring systems, i.e. compounds containing a ring system of the formula e.g. penicillins, penems [M1204]
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- A61K31/431 . . . . . {7 dots} containing further heterocyclic rings, e.g. ticarcillin, azlocillin, oxacillin[N0303]
- A61K31/433 . . . . . Thidiazoles[N0303]
- A61K31/435 . . . . . having six-membered rings with one nitrogen as the only ring hetero atom [C0303]
- A61K31/4353 . . . . . ortho- or peri-condensed with heterocyclic ring systems[N0303]
- A61K31/4355 . . . . . the heterocyclic ring system containing a five-membered ring having oxygen as a ring hetero atom[N0303]
- A61K31/436 . . . . . the heterocyclic ring system containing a six-membered ring having oxygen as a ring hetero atom, e.g. rapamycin[N0303]
- A61K31/4365 . . . . . the heterocyclic ring system having sulfur as a ring hetero atom, e.g. ticlopidine [N0303] [M1204]
- A61K31/437 . . . . . the heterocyclic ring system containing a five-membered ring having nitrogen as a ring hetero atom, e.g. indolizine, beta-carboline[N0303]
- A61K31/4375 . . . . . the heterocyclic ring system containing a six-membered ring having nitrogen as a ring heteroatom, e.g. quinolizines, naphthyridines, berberine, vincamine [N0303] [M1204]
- A61K31/438 . . . . . the ring being spiro-condensed with carbocyclic ring systems[N0303]
- A61K31/439 . . . . . the ring forming part of a bridged ring system, e.g. quinuclidine (8-azabicyclo [3.2.1] octanes [A61K31/46](#)) [N0303] [M1204]
- A61K31/44 . . . . . Non condensed pyridines; Hydrogenated derivatives thereof [C0303]
- A61K31/4402 . . . . . only substituted in position 2, e.g. pheniramine, bisacodyl[N0303]
- A61K31/4406 . . . . . only substituted in position 3, e.g. zimeldine (nicotinic acid [A61K31/455](#))[N0303]
- A61K31/4409 . . . . . only substituted in position 4, e.g. isoniazid, iproniazid [N0303] [M1204]
- A61K31/4412 . . . . . having oxo groups directly attached to the heterocyclic ring[N0303]
- A61K31/4415 . . . . . Pyridoxine, i.e. Vitamin B6 (pyridoxal phosphate [A61K31/675](#))[N0303]
- A61K31/4418 . . . . . having a carbocyclic group directly attached to the heterocyclic ring, e.g. cyproheptadine[N0303]
- A61K31/4422 . . . . . 1,4-Dihydropyridines, e.g. nifedipine, nicardipine[N0303]
- A61K31/4425 . . . . . Pyridinium derivatives, e.g. pralidoxime, pyridostigmine[N0303]
- A61K31/4427 . . . . . containing further heterocyclic ring systems[N0303]
- A61K31/443 . . . . . containing a five-membered ring with oxygen as a ring hetero atom[N0303]
- A61K31/4433 . . . . . containing a six-membered ring with oxygen as a ring hetero atom[N0303]
- A61K31/4436 . . . . . containing a heterocyclic ring having sulfur as a ring hetero



A61K31/4741	. . . . .	condensed with ring systems having oxygen as a ring hetero atom, e.g. tubocuraran derivatives, noscapine, bicuculline[N0303]
A61K31/4743	. . . . .	condensed with ring systems having sulfur as a ring hetero atom[N0303]
A61K31/4745	. . . . .	condensed with ring systems having nitrogen as a ring hetero atom, e.g. phenantrolines (yohimbine derivatives, vinblastine A61K31/475; ergoline derivatives A61K31/48) [N0303] [M1204]
A61K31/4747	. . . . .	Spiro-condensed[N0303]
A61K31/4748	. . . . .	forming part of bridged ring systems (strychnine A61K31/475; morphinan derivatives A61K31/485)[N0303]
A61K31/475	. . . . .	having an indole ring, e.g. yohimbine, reserpine, strychnine, vinblastine (vincamine A61K31/4375) [M1204]
A61K31/48	. . . . .	Ergoline derivatives, e.g. lysergic acid, ergotamine [C0303]
A61K31/485	. . . . .	Morphinan derivatives, e.g. morphine, codeine [C0303]
A61K31/49	. . . . .	Cinchonan derivatives, e.g. quinine [C0303]
A61K31/495	. . . . .	having six-membered rings with two [N: or more] nitrogen atoms as the only ring heteroatoms, e.g. piperazine [N: or tetrazines] (A61K31/48 takes precedence) [N: (with three nitrogen atoms A61K31/53)] [C1204]
A61K31/496	. . . . .	Non-condensed piperazines containing further heterocyclic rings, e.g. rifampin, thiothixene[N0303]
A61K31/4965	. . . . .	Non-condensed pyrazines[N0303]
A61K31/497	. . . . .	containing further heterocyclic rings[N0303]
A61K31/498	. . . . .	Pyrazines or piperazines ortho- and peri-condensed with carbocyclic ring systems, e.g. quinoxaline, phenazine[N0303]
A61K31/4985	. . . . .	Pyrazines or piperazines ortho- or peri-condensed with heterocyclic ring systems[N0303]
A61K31/499	. . . . .	Spiro-condensed pyrazines or piperazines[N0303]
A61K31/4995	. . . . .	Pyrazines or piperazines forming part of bridged ring systems[N0303]
A61K31/50	. . . . .	Pyridazines; Hydrogenated pyridazines [C0303]
A61K31/501	. . . . .	not condensed and containing further heterocyclic rings[N0303]
A61K31/502	. . . . .	ortho- or peri-condensed with carbocyclic ring systems, e.g. cinnoline, phthalazine[N0303]
A61K31/5025	. . . . .	ortho- or peri-condensed with heterocyclic ring systems[N0303]
A61K31/503	. . . . .	spiro-condensed[N0303]
A61K31/504	. . . . .	forming part of bridged ring systems[N0303]
A61K31/505	. . . . .	Pyrimidines; Hydrogenated pyrimidines, e.g. trimethoprim [C0303]
A61K31/506	. . . . .	not condensed and containing further heterocyclic rings[N0303]
A61K31/51	. . . . .	Thiamines, e.g. vitamin B1[C0303]
A61K31/513	. . . . .	having oxo groups directly attached to the heterocyclic ring, e.g. cytosine [N0303] [M1204]
A61K31/515	. . . . .	Barbituric acids; Derivatives thereof, e.g. sodium pentobarbital
A61K31/517	. . . . .	ortho- or peri-condensed with carbocyclic ring systems, e.g. quinazoline, perimidine[N0303]
A61K31/519	. . . . .	ortho- or peri-condensed with heterocyclic rings[N0303]
A61K31/52	. . . . .	Purines, e.g. adenine [C0303]
A61K31/522	. . . . .	{7 dots} having oxo groups directly attached to the heterocyclic ring, e.g. hypoxanthine, guanine, acyclovir [N0303] [M1204]

- A61K31/525 . . . . . Isoalloxazines, e.g. riboflavins, vitamin B2[C0303]
- A61K31/527 . . . . . spiro-condensed[N0303]
- A61K31/529 . . . . . forming part of bridged ring systems[N0303]
- A61K31/53 . . . . . having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazaniil, melamine, (melarsoprol A61K31/555) [N: (with four nitrogen atoms A61K31/495)] [C1204]
- A61K31/535 . . . . . having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines [C0303]
- A61K31/5355 . . . . . non-condensed oxazines and containing further heterocyclic rings[N0303]
- A61K31/536 . . . . . ortho- or peri-condensed with carbocyclic ring systems[N0303]
- A61K31/5365 . . . . . ortho- or peri-condensed with heterocyclic ring systems[N0303]
- A61K31/537 . . . . . spiro-condensed or forming part of bridged ring systems[N0303]
- A61K31/5375 . . . . . 1,4-Oxazines, e.g. morpholine [N0303] [M1204]
- A61K31/5377 . . . . . not condensed and containing further heterocyclic rings, e.g. timolol [N0303] [M1204]
- A61K31/538 . . . . . ortho- or peri-condensed with carbocyclic ring systems[N0303]
- A61K31/5383 . . . . . ortho- or peri-condensed with heterocyclic ring systems[N0303]
- A61K31/5386 . . . . . Spiro-condensed or forming part of bridged ring systems[N0303]
- A61K31/539 . . . . . having two or more oxygen atoms in the same ring, e.g. dioxazines[N0303]
- A61K31/5395 . . . . . having two or more nitrogen atoms in the same ring, e.g. oxadiazines[N0303]
- A61K31/54 . . . . . having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame [C0303]
- A61K31/541 . . . . . non-condensed thiazines containing further heterocyclic rings [N0303] [M1204]
- A61K31/5415 . . . . . ortho- or peri-condensed with carbocyclic ring systems, e.g. phenothiazine, chlorpromazine, piroxicam[N0303]
- A61K31/542 . . . . . ortho- or peri-condensed with heterocyclic ring systems[N0303]
- A61K31/545 . . . . . Compounds containing 5-thia-1-azabicyclo [4.2.0] octane ring systems, i.e. compounds containing a ring system of the formula:  

, e.g. cephalosporins, [N: cefaclor, or cephalexine] [M1204]
- A61K31/546 . . . . . containing further heterocyclic rings, e.g. cephalothin[N0303]
- A61K31/547 . . . . . spiro-condensed or forming part of bridged ring systems[N0303]
- A61K31/548 . . . . . having two or more sulfur atoms in the same ring[N0303]
- A61K31/549 . . . . . having two or more nitrogen atoms in the same ring, e.g. hydrochlorothiazide[N0303]
- A61K31/55 . . . . . having seven-membered rings, e.g. azelastine, pentylenetetrazole [C0303]
- A61K31/551 . . . . . having two nitrogen atoms, e.g. dilazep [N0303] [M1204]
- A61K31/5513 . . . . . 1,4-Benzodiazepines, e.g. diazepam [N: or clozapine] [N0303] [M1204]
- A61K31/5517 . . . . . condensed with five-membered rings having nitrogen as a ring hetero atom, e.g. imidazobenzodiazepines, triazolam[N0303]

- A61K31/553 . . . . having at least one nitrogen and one oxygen as ring hetero atoms, e.g. loxapine, staurosporine[N0303]
  - A61K31/554 . . . . having at least one nitrogen and one sulfur as ring hetero atoms, e.g. chlothiapine, diltiazem [N0303] [M1204]
  - A61K31/555 . . containing heavy metals, e.g. hemin, hematin, melarsoprol [C0303]
  - A61K31/557 . Eicosanoids, e.g. leukotrienes [N: or prostaglandins] [M1204]
  - A61K31/5575 . . having a cyclopentane, e.g. Prostaglandin E2, Prostaglandin F2-alpha [N0303] [M1204]
  - A61K31/5578 . . having a pentalene ring system, e.g. carbacyclin, iloprost[N0303]
  - A61K31/558 . . having heterocyclic rings containing oxygen as the only ring hetero atom, e.g. thromboxanes[N0303]
  - A61K31/5585 . . . . having five-membered rings containing oxygen as the only ring hetero atom, e.g. prostacyclin[N0303]
  - A61K31/559 . . having heterocyclic rings containing hetero atoms other than oxygen[N0303]
  - A61K31/56 . Compounds containing cyclopenta[a]hydrophenanthrene ring systems; Derivatives, e.g. steroids [C0303]
- Note**  
Attention is drawn to Note (1) following the title of subclass [C07J](#) which explains what is covered by the term "steroids"
- A61K31/565 . . not substituted in position 17 beta by a carbon atom, e.g. estrane, estradiol [C0303]
  - A61K31/566 . . . . having an oxo group in position 17, e.g. estrone [N0303] [M1204]
  - A61K31/567 . . . . substituted in position 17 alpha, e.g. mestranol, norethandrolone[N0303]
  - A61K31/568 . . . . substituted in positions 10 and 13 by a chain having at least one carbon atom, e.g. androstanes, e.g. testosterone[N0303]
  - A61K31/5685 . . . . . having an oxo group in position 17, e.g. androsterone [N0303] [M1204]
  - A61K31/569 . . . . . substituted in position 17 alpha, e.g. ethisterone[N0303]
  - A61K31/57 . . substituted in position 17 beta by a chain of two carbon atoms, e.g. pregnane, progesterone [C0303]
  - A61K31/573 . . . . substituted in position 21, e.g. cortisone, dexamethasone, prednisone [N: or aldosterone] [N0303] [M1204]
  - A61K31/575 . . substituted in position 17 beta by a chain of three or more carbon atoms, e.g. cholane, cholestane, ergosterol, sitosterol[C0303]
  - A61K31/58 . . containing heterocyclic rings, e.g. danazol, stanazolol, pancuronium or digitogenin [N: (digitoxin [A61K31/7048](#))] [C1204]
  - A61K31/585 . . . . containing lactone rings, e.g. oxandrolone, bufalin [C0303]
  - A61K31/59 . Compounds containing 9, 10- seco- cyclopenta[a]hydrophenanthrene ring systems [C9509]
  - A61K31/592 . . 9,10-Secoergostane derivatives, e.g. ergocalciferol, i.e. vitamin D2[N0303]
  - A61K31/593 . . 9,10-Secocholestane derivatives, e.g. cholecalciferol, i.e. vitamin D3[N0303]
  - A61K31/60 . Salicylic acid; Derivatives thereof [C9509]
  - A61K31/603 . . having further aromatic rings, e.g. diflunisal[N0303]
  - A61K31/606 . . having amino groups[N0303]
  - A61K31/609 . . Amides, e.g. salicylamide [N: ([labetalol](#), [metoclopramide](#) [A61K31/166](#))] [N0303]

- [M1204]
- A61K31/612 . . having the hydroxy group in position 2 esterified, e.g. salicylsulfuric acid ([fosfosal A61K31/661](#))[\[N0303\]](#)
  - A61K31/616 . . . by carboxylic acids, e.g. acetylsalicylic acid[\[N0303\]](#)
  - A61K31/618 . . having the carboxyl group in position 1 esterified, e.g. salsalate[\[N0303\]](#)
  - A61K31/621 . . . having the hydroxy group in position 2 esterified, e.g. benorylate[\[N0303\]](#)
  - A61K31/625 . . having heterocyclic substituents, e.g. 4-salicyloylmorpholine, ([sulfasalazine A61K31/635](#)) [\[C0303\]](#)
  
  - A61K31/63 . Compounds containing para-N-benzenesulfonyl-N-groups, e.g. sulfanilamide, p-nitrobenzenesulfonyl hydrazide [\[C1204\]](#)
  - A61K31/635 . . having a heterocyclic ring, e.g. sulfasalazine [\[C0303\]](#)
  - A61K31/64 . Sulfonylureas, e.g. glibenclamide, tolbutamide, chlorpropamide [\[C0303\]](#)
  - A61K31/65 . Tetracyclines
  - A61K31/655 . Azo (-N=N-) [[N: \(sulfasalazine A61K31/635\)](#)], diazo (=N<sub>2</sub>), azoxy (>N-O-N< or N(=O)-N<), azido (-N<sub>3</sub>) or diazoamino (-N=N-N<) compounds [\[M1204\]](#)
  
  - A61K31/66 . Phosphorus compounds
  - A61K31/661 . . Phosphorus acids or esters thereof not having P-C bonds, e.g. fosfosal, dichlorvos, malathion [[N: or mevinphos](#)] [\[N0303\]](#) [\[M1204\]](#)
  - A61K31/6615 . . . Compounds having two or more esterified phosphorus acid groups, e.g. inositol triphosphate, phytic acid [\[N0303\]](#) [\[M1204\]](#)
  - A61K31/662 . . Phosphorus acids or esters thereof having P-C bonds, e.g. foscarnet, trichlorfon[\[N0303\]](#)
  - A61K31/663 . . . Compounds having two or more phosphorus acid groups or esters thereof, e.g. clodronic acid, pamidronic acid[\[N0303\]](#)
  - A61K31/664 . . Amides of phosphorus acids[\[N0303\]](#)
  - A61K31/665 . . having oxygen as a ring hetero atom, e.g. fosfomicin [\[C0303\]](#)
  - A61K31/67 . . having sulfur as a ring hetero atom [\[C0303\]](#)
  - A61K31/675 . . having nitrogen as a ring hetero atom, e.g. pyridoxal phosphate [\[C0303\]](#)
  - A61K31/683 . . Diesters of a phosphorus acid with two hydroxy compounds, e.g. phosphatidylinositols[\[N0303\]](#)
  - A61K31/685 . . . one of the hydroxy compounds having nitrogen atoms, e.g. phosphatidylserine, lecithin[\[N0303\]](#)
  - A61K31/688 . . . both hydroxy compounds having nitrogen atoms, e.g. sphingomyelin[\[N0303\]](#)
  
  - A61K31/69 . Boron compounds
  - A61K31/695 . Silicon compounds
  - A61K31/70 . Carbohydrates; Sugars; Derivatives thereof ([sorbitol A61K31/047](#)) [\[C9509\]](#)
  
  - Note**  
In this group, the expressions are used with the meanings indicated in Note (3) following the title of the subclass C07H
  - A61K31/7004 . . Monosaccharide having only carbon, hydrogen and oxygen atoms[\[N0303\]](#)

- A61K31/7008 . . Compounds having an amino group directly attached to a carbon atom of the saccharide radical, e.g. D-galactosamine, ranimustine [N0303]
- A61K31/7012 . . Compounds having a free or esterified carboxyl group attached, directly or through a carbon chain, to a carbon atom of the saccharide radical, e.g. glucuronic acid, neuraminic acid (gluconic acid [A61K31/191](#); ascorbic acid [A61K31/375](#)) [N0303] [M1204]
- A61K31/7016 . . Disaccharides, e.g. lactose, lactulose (lactobionic acid [A61K31/7032](#)) [N0303]
- A61K31/702 . . Oligosaccharides, i.e. having three to five saccharide radicals attached to each other by glycosidic linkages [N0303]
- A61K31/7024 . . Esters of saccharides [N0303]
- A61K31/7028 . . Compounds having saccharide radicals attached to non-saccharide compounds by glycosidic linkages [N0303]
- A61K31/7032 . . . attached to a polyol, i.e. compound having two or more free or esterified hydroxy groups, including the hydroxy group involved in the glycosidic linkage, e.g. monoglucosyldiacylglycerides, lactobionic acid, gangliosides [N0303] [M1204]
- A61K31/7034 . . . attached to a carbocyclic compound, e.g. phloridzin [N0303]
- A61K31/7036 . . . . having at least one amino group directly attached to the carbocyclic ring, e.g. streptomycin, gentamycin, amikacin, validamycin, fortimicins [N0303] [M1204]
- A61K31/704 . . . . attached to a condensed carbocyclic ring system, e.g. sennosides, thiocolchicosides, escin, daunorubicin [N: (digitoxin [A61K31/7048](#))] [N0303] [M1204]
- A61K31/7042 . . Compounds having saccharide radicals and heterocyclic rings [N0303]
- A61K31/7048 . . . having oxygen as a ring hetero atom, e.g. leucoglucosan, hesperidin, erythromycin, nystatin [N: digitoxin or digoxin] [N0303] [C1204]
- A61K31/7052 . . . having nitrogen as a ring hetero atom, e.g. nucleosides, nucleotides [N0303]
- A61K31/7056 . . . . containing five-membered rings with nitrogen as a ring hetero atom [N0303]
- A61K31/706 . . . . containing six-membered rings with nitrogen as a ring hetero atom [N0303]
- A61K31/7064 . . . . . containing condensed or non-condensed pyrimidines [N0303]
- A61K31/7068 . . . . . having oxo groups directly attached to the pyrimidine ring, e.g. cytidine, cytidylic acid [N0303]
- A61K31/7072 . . . . . {7 dots} having two oxo groups directly attached to the pyrimidine ring, e.g. uridine, uridylic acid, thymidine, zidovudine [N0303]
- A61K31/7076 . . . . . containing purines, e.g. adenosine, adenylic acid [N0303]
- A61K31/708 . . . . . {7 dots} having oxo groups directly attached to the purine ring system, e.g. guanosine, guanylic acid [N0303]
- A61K31/7084 . . Compounds having two nucleosides or nucleotides, e.g. nicotinamide-adenine dinucleotide, flavine-adenine dinucleotide [N0303]
- A61K31/7088 . . Compounds having three or more nucleosides or nucleotides [N0303]
- A61K31/7105 . . . Natural ribonucleic acids, i.e. containing only riboses attached to adenine, guanine, cytosine or uracil and having 3'-5' phosphodiester links [N0303]
- A61K31/711 . . . Natural deoxyribonucleic acids, i.e. containing only 2'-deoxyriboses attached to adenine, guanine, cytosine or thymine and having 3'-5' phosphodiester links [N0303]
- A61K31/7115 . . . Nucleic acids or oligonucleotides having modified bases, i.e. other than adenine, guanine, cytosine, uracil or thymine [N0303]
- A61K31/712 . . . Nucleic acids or oligonucleotides having modified sugars, i.e. other than ribose or 2'-deoxyribose [N0303]

- A61K31/7125 . . . Nucleic acids or oligonucleotides having modified internucleoside linkage, i.e. other than 3'-5' phosphodiesters[N0303]
- A61K31/713 . . . Double-stranded nucleic acids or oligonucleotides[N0303]
- A61K31/7135 . . . Compounds containing heavy metals[N0303]
- A61K31/714 . . . Cobalamins, e.g. cyanocobalamin, i.e. vitamin B12[N0303]
- A61K31/715 . . . Polysaccharides, i.e. having more than five saccharide radicals attached to each other by glycosidic linkages; Derivatives thereof, e.g. ethers, esters [C0303]
- A61K31/716 . . . Glucans[N0303]
- A61K31/717 . . . . Celluloses[N0303]
- A61K31/718 . . . . Starch or degraded starch, e.g. amylose, amylopectin[N0303]
- A61K31/719 . . . . Pullulans [N0303] [M1204]
- A61K31/721 . . . . Dextrans[N0303]
- A61K31/722 . . . . Chitin, chitosan[N0303]
- A61K31/723 . . . . Xanthans[N0303]
- A61K31/724 . . . . Cyclodextrins[N0303]
- A61K31/726 . . . Glycosaminoglycans, i.e. mucopolysaccharides (chondroitin sulfate, dermatan sulfate [A61K31/737](#))[N0303]
- A61K31/727 . . . . Heparin; Heparan[N0303]
- A61K31/728 . . . . Hyaluronic acid[N0303]
- A61K31/729 . . . Agar; Agarose; Agaropectin[N0303]
- A61K31/731 . . . Carrageenans[N0303]
- A61K31/732 . . . Pectin[N0303]
- A61K31/733 . . . Fructosans, e.g. inulin[N0303]
- A61K31/734 . . . Alginic acid [N0303]
- A61K31/736 . . . Glucomannans or galactomannans, e.g. locust bean gum, guar gum[N0303]
- A61K31/737 . . . Sulfated polysaccharides, e.g. chondroitin sulfate, dermatan sulfate ([A61K31/727](#) takes precedence) [N0303] [M1204]
- A61K31/738 . . . Cross-linked polysaccharides[N0303]
- A61K31/739 . . . Lipopolysaccharides[N0303]
  
- A61K31/74 . . Synthetic polymeric materials
- A61K31/745 . . Polymers of hydrocarbons
- A61K31/75 . . . of ethene
- A61K31/755 . . Polymers containing halogen
- A61K31/76 . . . of vinyl chloride
- A61K31/765 . . Polymers containing oxygen
- A61K31/77 . . . of oxiranes
- A61K31/775 . . . Phenolic resins
- A61K31/78 . . . of acrylic acid or derivatives thereof
- A61K31/785 . . Polymers containing nitrogen
- A61K31/787 . . . containing heterocyclic rings having nitrogen as a ring hetero atom[N0303]
- A61K31/79 . . . . Polymers of vinyl pyrrolidone[N0303]
- A61K31/795 . . Polymers containing sulfur
- A61K31/80 . . Polymers containing hetero atoms not provided for in groups [A61K31/755](#) to

[61K31/795](#)**A61K33/00****Medicinal preparations containing inorganic active ingredients**

- A61K33/02 . Ammonia; Compounds thereof
- A61K33/04 . Sulfur, selenium or tellurium; Compounds thereof
- A61K33/06 . Aluminium, calcium or magnesium; Compounds thereof, [N: e.g. clay]
- A61K33/08 . . Oxides; Hydroxides
- A61K33/10 . . Carbonates; Bicarbonates
- A61K33/12 . . Magnesium silicate
- A61K33/14 . Alkali metal chlorides; Alkaline earth metal chlorides
- A61K33/16 . Fluorine compounds
- A61K33/18 . Iodine; Compounds thereof
- A61K33/20 . Elemental chlorine; Inorganic compounds releasing chlorine
- A61K33/22 . Boron compounds
- A61K33/24 . Heavy metals; Compounds thereof
- A61K33/24B . . [N: Bismuth; Derivatives thereof]
- A61K33/26 . . Iron; Compounds thereof
- A61K33/28 . . Mercury; Compounds thereof
- A61K33/30 . . Zinc; Compounds thereof
- A61K33/32 . . Manganese; Compounds thereof
- A61K33/34 . . Copper; Compounds thereof
- A61K33/36 . . Arsenic; Compounds thereof
- A61K33/38 . . Silver; Compounds thereof
- A61K33/40 . Peroxides
- A61K33/42 . Phosphorus; Compounds thereof
- A61K33/44 . Elemental carbon, e.g. charcoal, carbon black

**A61K35/00****Medicinal preparations containing materials or reaction products thereof with undetermined constitution**[N: **WARNING** [N1203]

Groups [A61K35/13](#), [A61K35/15](#), [A61K35/17](#), [A61K35/19](#), [A61K35/33](#), [A61K35/35](#), [A61K35/51](#), [A61K35/57](#), [A61K35/61](#) do not correspond to former or future IPC.  
 Concordance ECLA : IPC for these groups is as follows: - [A61K35/13](#) : [A61K35/12](#) - [A61K35/15](#) : [A61K35/14](#) - [A61K35/17](#) : [A61K35/14](#) - [A61K35/19](#) : [A61K35/14](#) - [A61K35/33](#) : [A61K35/12](#) - [A61K35/35](#) : [A61K35/12](#) - [A61K35/51](#) : [A61K35/48](#) -

[5/57](#) : [A61K35/56](#) - [A61K35/61](#) : [A61K35/56](#)

]

[N: **Note**

When classifying in this group, the last place rule (applied throughout A61K) does not apply. Namely, classification is made for each active component or material.

]

- [A61K35/02](#) . from inanimate materials
- [A61K35/04](#) . . Tars; Bitumens; Mineral oils; Ammonium bituminisulfonates, e.g. ichthyol ([carbon A61K33/00](#)) [C1203]
- [A61K35/06](#) . . . Mineral oils, [N: e.g. paraffinic oils, aromatic oils based on aromatic hydrocarbons ([essential oils derived from plants A61K36/00](#))] [C1203]
- [A61K35/08](#) . . Mineral waters; [N: Sea water] [C1203]
- [A61K35/10](#) . . Peat; Amber; [N: Turf; Humus ([wood tar, sap or resin A61K36/00](#))] [C1203]
  
- [A61K35/12](#) . Materials from mammals; [N: compositions comprising non-specified tissues or cells; Compositions comprising non-embryonic stem cells ([uncharacterized stem cells A61K35/54A](#)); Genetically modified cells (gene therapy [C12N5/10](#); vaccines or medicinal preparations containing antigens or antibodies [A61K39/00](#)) [N: Note: If the cells are characterized, classify under the corresponding tissue or tissue of origin] [C1203]
  
- [N: **Note** [N1203]
- When the cells are characterized, classification is given under the corresponding tissue or tissue of origin
- ]
  
- [A61K35/13](#) . . [N: Tumor cells, irrespective of tissue of origin ([tumor vaccines A61K39/00](#))] [N1203]
- [A61K35/14](#) . . Blood [N: ([haemoglobin A61K38/42](#); [umbilical cord blood A61K35/51](#)); Artificial blood ([perfluorocarbons A61K31/02](#))] [C1203]
- [A61K35/15](#) . . . [N: Cells of the myeloid line, e.g. granulocytes, basophils, eosinophils, neutrophils, monocytes, macrophages or mast cells; Myeloid precursor cells; Antigen presenting cells, e.g. dendritic cells ([presenting a specific antigen A61K39/00](#); [therapeutic combinations of antibodies, or fragments thereof, and blood-derived cells A61K35/15, A61K39/00 or C07K16/00](#))] [N1203]
- [A61K35/16](#) . . . [N: Blood plasma; Blood serum ([umbilical cord blood A61K35/51](#))] [C1203]
- [A61K35/17](#) . . . [N: Lymphocytes; B-cells; T-cells; Natural killer cells; Interferon- and cytokine-activated lymphocytes ([when activated by a specific antigen A61K39/00](#))] [N1203]
- [A61K35/18](#) . . . Erythrocytes [N: ([hemoglobin A61K38/42](#))] [C1203]
- [A61K35/19](#) . . . [N: Platelets; Megacaryocytes] [N1203]
- [A61K35/20](#) . . Milk; Colostrum; [N: Whey] [C1203]
- [A61K35/22](#) . . [N: Urinary tract, e.g. kidney or bladder; Intraglomerular mesangial cells; Renal mesenchymal cells; Adrenal gland]; Urine [C1203]
- [A61K35/24](#) . . Mucus; Mucous glands; Bursa; [N: Synovial fluid]; Arthral fluid; Excreta; Spinal fluid [N: ([saliva A61K35/38](#))] [C1203]
- [A61K35/26](#) . . Lymph; [N: Lymph nodes;] Thymus; [N: Spleen; Splenocytes; Thymocytes] [C1203]
- [A61K35/28](#) . . [N: Bone] marrow; [N: Hematopoietic stem cells; Mesenchymal stem cells of any

- origin, e.g. adipose-derived stem cells] [C1203]
- A61K35/30 . . Nerves; Brain; [N: Eyes; Corneal cells; Cerebrospinal fluid; Neuronal stem cells; Neuronal precursor cells; Glial cells; Oligodendrocytes; Schwann cells; Astroglia, astrocytes; Choroid plexus; Spinal cord tissue] [C1203]
- A61K35/32 . . Bones; [N: Osteocytes; Osteoblasts;] Tendons; [N: Tenocytes;] Teeth; [N: Odontoblasts;] Cartilage; [N: Chondrocytes; Synovial membrane] [C1203]
- A61K35/33 . . [N: Fibroblasts] [N1203]
- A61K35/34 . . Muscles; [N: Smooth muscle cells] Heart; [N: Cardiac stem cells; Myoblasts; Myocytes; Cardiomyocytes (vascular smooth muscle [A61K35/44](#))] [C1203]
- A61K35/35 . . [N: Fat tissue; Adipocytes; Stromal cells; Connective tissues of general nature (adipose-derived stem cells [A61K35/28](#), collagen [A61K38/39](#))] [N1203]
- A61K35/36 . . Skin; Hair; Nails; Sebaceous glands; Cerumen; [N: Epidermis; Epithelial cells; Keratinocytes; Langerhans cells; Ecdodermal cells (islets of Langerhans [A61K35/39](#))] [C1203]
- [N: **Note** [N1203]  
Epithelial cells of specific tissues, e.g. lung epithelium, are classified under the respective tissue  
]
- A61K35/37 . . Digestive system
- A61K35/38 . . . Stomach; Intestine; [N: Goblet cells; Oral mucosa; Saliva] [C1203]
- A61K35/39 . . . Pancreas; Islets of Langerhans [N: (Langerhans cells of epidermis [A61K35/36](#))] [C1203]
- A61K35/407 . . . Liver; [N: Hepatocytes] [C1203]
- A61K35/413 . . . [N: Gallbladder;] Bile [C1203]
- A61K35/42 . . [N: Respiratory System:] e.g. Lungs; [N: Bronchi; Lung cells] [C1203]
- A61K35/44 . . Vessels [N: e.g. blood vessels or lymphatic vessels; Vascular smooth muscle cells; Endothelial cells; Endothelial progenitor cells] [C1203]
- A61K35/48 . . Reproductive organs [C1203]
- A61K35/50 . . . Placenta; Amniotic fluid; [N: Amnion, Amniotic stem cells; Placental stem cells] [C1203]
- A61K35/51 . . . [N: Umbilical cord; Umbilical cord blood; Umbilical stem cells] [N1203]
- A61K35/52 . . . Sperm [N: Prostate, Seminal fluid; Leydig cells of testes] [C1203]
- A61K35/54 . . . Ovary; Embryos; [N: Fetal cells; Germ cells] [C1203]
- A61K35/54A . . . . [N: Embryonic stem cells; Pluripotent stem cells; Induced pluripotent stem cells; Uncharacterized stem cells] [N1203]
- A61K35/55 . . Glands not provided for in any of the preceding subgroups of this main group [N: e.g. thyroid, parathyroid, pineal gland] [C1203]
- A61K35/56 . Materials from animals other than mammals [C1203]
- A61K35/57 . . [N: Birds; Materials from birds, e.g. eggs or feathers] [N1203]
- A61K35/58 . . [N: Reptiles] [C1203]
- A61K35/58A . . . [N: Snakes [N: Lizards; Chameleons (therapeutic use of a snake venom protein [A61K38](#))] [N1203]
- A61K35/58B . . . [N: Turtles, Tortoises] [N1203]
- A61K35/60 . . Fish; [N: Seahorses; Fish eggs] [C1203]
- A61K35/61 . . [N: Sea animals other than those covered by group [A61K35/60](#)] [N1203]
- A61K35/61A . . . [N: Crustaceans, e.g. crabs, lobsters, shrimps, krill or crayfish; Barnacles]

- N1203]
- A61K35/61B . . . [N: Cnidaria, e.g. sea anemones, corals, coral animals, jellyfish] [N1203]
- A61K35/61C . . . [N: Echinodermata, e.g. star fish, sea cucumbers, sea urchins] [N1203]
- A61K35/61D . . . [N: Molluscs, e.g. fresh-water molluscs, oysters, clams, squids, octopus, cuttlefish, snails or slugs] [N1203]
- A61K35/62 . . Leeches; [N: Worms, e.g. cestodes or tapeworms, nematodes, roundworms, earth worms, ascarids, filarias, hookworms, trichinella or taenia] [C1203]
- A61K35/64 . . [N: Arthropods]
- A61K35/64A . . . [N: Insects, e.g. bees, wasps or fleas] [N1203]
- A61K35/64A1 . . . . [N: Beeswax; Propolis; Royal jelly; Honey] [N1203]
- A61K35/64B . . . [N: arachnids, e.g. spiders, scorpions, ticks or mites] [N1203]
- A61K35/64C . . . [N: Myriapods, e.g. centipedes or millipedes] [N1203]
- A61K35/65 . . [N: Amphibians, e.g. toads, frogs, salamanders, newts] [N1203]
- A61K35/66 . Micro-organisms or materials thereof (mutated microorganisms or microorganisms per se [C12R1/00](#); microorganisms in food, for nutritional purposes [A23L1/30M](#); fungi, yeast or candida [A61K36/06](#)) [C1203]
- [N: **Note** [N1203]  
Classification is given in this group only the micro-organism is the active ingredient ]
- A61K35/68 . . Protozoa [N: e.g. flagella, amoebas, sporozoans, plasmodium or toxoplasma] [C1203]
- A61K35/74 . . Bacteria [N: (therapeutic use of a bacterial protein [A61K38/00](#); bacteria per se or mutant bacteria [C12R1/00](#); bacteria in food, for nutritional purposes [A23L1/30M](#))] [C1203]
- A61K35/74A . . . [N: Probiotics (as part of food or functional food [A23L1/30M](#); probiotic yeast, i.e. *saccharomyces* [A61K36/06](#))] [N1203]
- A61K35/74A1 . . . . [N: Spore-forming bacteria, e.g. *Bacillus coagulans* or *Lactobacillus sporogenes*] [N1203]
- A61K35/74A2 . . . . [N: Lactic acid bacteria, e.g. enterococci, pediococci, lactococci, streptococci, leuconostoc] [N1203]
- A61K35/74A2A . . . . . [N: Bifidobacteria] [N1203]
- A61K35/74A2B . . . . . [N: Lactobacilli, e.g. *L. acidophilus*, *L. brevis*] [N1203]
- A61K35/74B . . . [N: Cyanobacteria; Spirulina; Blue-green algae; Blue-green bacteria (algae, microalgae or microphytes [A61K36/00](#))] [N1203]
- A61K35/76 . . Viruses, [N: Bacteriophages; (viruses per se [C12N7/00](#); viral proteins per se [C07K14/005](#); use of virus as a vector [C12N15/86](#); use of virus or part thereof as vaccine [A61K39/12](#); therapeutic use of a viral protein [A61K38/16](#))] [C1205]
- A61K35/76A . . . [N: Adenovirus] [N1203]
- A61K35/76B . . . [N: Herpes virus] [N1203]
- A61K35/76C . . . [N: Reovirus; Rotavirus] [N1203]
- A61K35/76D . . . [N: Rhabdovirus, e.g. vesicular stomatitis virus] [N1203]
- A61K35/76E . . . [N: Other oncolytic viruses] [N1203]
- A61K36/00** **Medicinal preparations of undetermined constitution containing material from algae, lichens, fungi or plants, or derivatives thereof, e.g. traditional herbal medicines [N: (antigens from pollen [A61K39/36](#))] [N0604]**

**Notes**

In this group, common names of plants, where given, are presented in brackets following their corresponding Latin names. [N0904]

- A61K36/02 . Algae [N0604]
- A61K36/03 . . Phaeophycota or phaeophyta (brown algae), e.g. Fucus [N0604]
- A61K36/04 . . Rhodophycota or rhodophyta (red algae), e.g. Porphyra [N0604]
- A61K36/05 . . Chlorophycota or chlorophyta (green algae), e.g. Chlorella [N0604]
  
- A61K36/06 . Fungi, e.g. yeasts [N0604]
- A61K36/062 . . Ascomycota [N0604]
- A61K36/064 . . . Saccharomycetales, e.g. baker's yeast [N0604]
- A61K36/066 . . . Clavicipitaceae [N0604]
- A61K36/068 . . . . Cordyceps [N0604]
- A61K36/07 . . Basidiomycota, e.g. Cryptococcus [N0604]
- A61K36/074 . . . Ganoderma [N0604]
- A61K36/076 . . . Poria [N0604]
  
- A61K36/09 . Lichens [N0604]
  
- A61K36/10 . Bryophyta [N0604]
  
- A61K36/11 . Pteridophyta or Filicophyta (ferns) [N0604]
- A61K36/12 . . Filicopsida or Pteridopsida [N0604]
- A61K36/126 . . . Drynaria [N0604]
  
- A61K36/13 . Coniferophyta (gymnosperms) [N0604]
- A61K36/14 . . Cupressaceae (Cypress family), e.g. juniper or cypress [N0604]
- A61K36/15 . . Pinaceae (Pine family), e.g. pine or cedar [N0604]
  
- A61K36/16 . Ginkgophyta, e.g. Ginkgoaceae (Ginkgo family) [N0605]
  
- A61K36/17 . Gnetophyta, e.g. Ephedraceae (Mormon-tea family) [N0605]
  
- A61K36/18 . Magnoliophyta (angiosperms) [N0605]
- A61K36/185 . . Magnoliopsida (dicotyledons) [N0605]
- A61K36/19 . . . Acanthaceae (Acanthus family) [N0605]
- A61K36/195 . . . . Strobilanthes [N0605]
- A61K36/20 . . . Aceraceae (Maple family) [N0605]
- A61K36/21 . . . Amaranthaceae (Amaranth family), e.g. pigweed, rockwort or globe amaranth [N0605]
- A61K36/22 . . . Anacardiaceae (Sumac family), e.g. smoketree, sumac or poison oak [N0605]
- A61K36/23 . . . Apiaceae or Umbelliferae (Carrot family), e.g. dill, chervil, coriander or cumin [N0605]
- A61K36/232 . . . . Angelica [N0605]

A61K36/233	. . . .	Bupleurum [N0605]
A61K36/234	. . . .	Cnidium (snowparsley) [N0605]
A61K36/235	. . . .	Foeniculum (fennel) [N0605]
A61K36/236	. . . .	Ligusticum (licorice-root) [N0605]
A61K36/237	. . . .	Notopterygium [N0605]
A61K36/238	. . . .	Saposhnikovia [N0605]
A61K36/24	. . . .	Apocynaceae (Dogbane family), e.g. plumeria or periwinkle [N0605]
A61K36/25	. . . .	Araliaceae (Ginseng family), e.g. ivy, aralia, schefflera or tetrapanax [N0605]
A61K36/254	. . . .	Acanthopanax or Eleutherococcus [N0605]
A61K36/258	. . . .	Panax (ginseng) [N0605]
A61K36/26	. . . .	Aristolochiaceae (Birthwort family), e.g. heartleaf [N0605]
A61K36/264	. . . .	Aristolochia (Dutchman's pipe) [N0605]
A61K36/268	. . . .	Asarum (wild ginger) [N0605]
A61K36/27	. . . .	Asclepiadaceae (Milkweed family), e.g. hoyo [N0605]
A61K36/28	. . . .	Asteraceae or Compositae (Aster or Sunflower family), e.g. chamomile, feverfew, yarrow or echinacea [N0605]
A61K36/282	. . . .	Artemisia, e.g. wormwood or sagebrush [N0605]
A61K36/284	. . . .	Atractylodes [N0605]
A61K36/285	. . . .	Aucklandia [N0605]
A61K36/286	. . . .	Carthamus (distaff thistle) [N0605]
A61K36/287	. . . .	Chrysanthemum, e.g. daisy [N0605]
A61K36/288	. . . .	Taraxacum (dandelion) [N0605]
A61K36/289	. . . .	Vladimiria [N0605]
A61K36/29	. . . .	Berberidaceae (Barberry family), e.g. barberry, cohosh or mayapple [N0605]
A61K36/296	. . . .	Epimedium [N0605]
A61K36/30	. . . .	Boraginaceae (Borage family), e.g. comfrey, lungwort or forget-me-not [N0605]
A61K36/31	. . . .	Brassicaceae or Cruciferae (Mustard family), e.g. broccoli, cabbage or kohlrabi [N0605]
A61K36/315	. . . .	Isatis, e.g. Dyer's woad [N0605]
A61K36/32	. . . .	Burseraceae (Frankincense family) [N0605]
A61K36/324	. . . .	Boswellia, e.g. frankincense [N0605]
A61K36/328	. . . .	Commiphora, e.g. mecca myrrh or balm of Gilead [N0605]
A61K36/33	. . . .	Cactaceae (Cactus family), e.g. pricklypear or Cereus [N0605]
A61K36/34	. . . .	Campanulaceae (Bellflower family) [N0605]
A61K36/342	. . . .	Adenophora [N0605]
A61K36/344	. . . .	Codonopsis [N0605]
A61K36/346	. . . .	Platycodon [N0605]
A61K36/35	. . . .	Caprifoliaceae (Honeysuckle family) [N0605]
A61K36/355	. . . .	Lonicera (honeysuckle) [N0605]
A61K36/36	. . . .	Caryophyllaceae (Pink family), e.g. babysbreath or soapwort [N0605]
A61K36/37	. . . .	Celastraceae (Staff-tree or Bittersweet family), e.g. tripterygium or spindletree [N0605]
A61K36/38	. . . .	Clusiaceae, Hypericaceae or Guttiferae (Hypericum or Mangosteen family), e.g.

		common St. Johnswort [N0605]
A61K36/39	. . .	Convolvulaceae (Morning-glory family), e.g. bindweed [N0605]
A61K36/40	. . .	Cornaceae (Dogwood family) [N0605]
A61K36/41	. . .	Crassulaceae (Stonecrop family) [N0605]
A61K36/42	. . .	Cucurbitaceae (Cucumber family) [N0605]
A61K36/424	. . . .	Gynostemma [N0605]
A61K36/428	. . . .	Trichosanthes [N0605]
A61K36/43	. . .	Cuscutaceae (Dodder family), e.g. Cuscuta epithimum or greater dodder [N0605]
A61K36/44	. . .	Ebenaceae (Ebony family), e.g. persimmon [N0605]
A61K36/45	. . .	Ericaceae or Vacciniaceae (Heath or Blueberry family), e.g. blueberry, cranberry or bilberry [N0605]
A61K36/46	. . .	Eucommiaceae (Eucommia family), e.g. hardy rubber tree [N0605]
A61K36/47	. . .	Euphorbiaceae (Spurge family), e.g. Ricinus (castorbean) [N0605]
A61K36/48	. . .	Fabaceae or Leguminosae (Pea or Legume family); Caesalpiniaceae; Mimosaceae; Papilionaceae [N0605]
A61K36/481	. . . .	Astragalus (milkvetch) [N0605]
A61K36/482	. . . .	Cassia, e.g. golden shower tree [N0605]
A61K36/483	. . . .	Gleditsia (locust) [N0605]
A61K36/484	. . . .	Glycyrrhiza (licorice) [N0605]
A61K36/485	. . . .	Gueldenstaedtia [N0605]
A61K36/486	. . . .	Millettia [N0605]
A61K36/487	. . . .	Psoralea [N0605]
A61K36/488	. . . .	Pueraria (kudzu) [N0605]
A61K36/489	. . . .	Sophora, e.g. necklacepod or mamani [N0605]
A61K36/49	. . .	Fagaceae (Beech family), e.g. oak or chestnut [N0605]
A61K36/50	. . .	Fumariaceae (Fumitory family), e.g. bleeding heart [N0605]
A61K36/505	. . . .	Corydalis [N0605]
A61K36/51	. . .	Gentianaceae (Gentian family) [N0605]
A61K36/515	. . . .	Gentiana [N0605]
A61K36/52	. . .	Juglandaceae (Walnut family) [N0605]
A61K36/53	. . .	Lamiaceae or Labiatae (Mint family), e.g. thyme, rosemary or lavender [N0605]
A61K36/532	. . . .	Agastache, e.g. giant hyssop [N0605]
A61K36/533	. . . .	Leonurus (motherwort) [N0605]
A61K36/534	. . . .	Mentha (mint) [N0605]
A61K36/535	. . . .	Perilla (beefsteak plant) [N0605]
A61K36/536	. . . .	Prunella or Brunella (selfheal) [N0605]
A61K36/537	. . . .	Salvia (sage) [N0605]
A61K36/538	. . . .	Schizonepeta [N0605]
A61K36/539	. . . .	Scutellaria (skullcap) [N0605]
A61K36/54	. . .	Lauraceae (Laurel family), e.g. cinnamon or sassafras [N0605]
A61K36/55	. . .	Linaceae (Flax family), e.g. Linum [N0605]
A61K36/56	. . .	Loganiaceae (Logania family), e.g. trumpetflower or pinkroot [N0605]

A61K36/57	. . .	Magnoliaceae (Magnolia family) [N0605]
A61K36/575	. . . .	Magnolia [N0605]
A61K36/58	. . .	Meliaceae (Chinaberry or Mahogany family), e.g. Azadirachta (neem) [N0605]
A61K36/59	. . .	Menispermaceae (Moonseed family), e.g. hyperbaena or coralbead [N0605]
A61K36/60	. . .	Moraceae (Mulberry family), e.g. breadfruit or fig [N0605]
A61K36/605	. . . .	Morus (mulberry) [N0605]
A61K36/61	. . .	Myrtaceae (Myrtle family), e.g. teatree or eucalyptus [N0605]
A61K36/62	. . .	Nymphaeaceae (Water-lily family) [N0605]
A61K36/63	. . .	Oleaceae (Olive family), e.g. jasmine, lilac or ash tree [N0605]
A61K36/634	. . . .	Forsythia [N0605]
A61K36/638	. . . .	Ligustrum, e.g. Chinese privet [N0605]
A61K36/64	. . .	Orobanchaceae (Broom-rape family) [N0605]
A61K36/65	. . .	Paeoniaceae (Peony family), e.g. Chinese peony [N0605]
A61K36/66	. . .	Papaveraceae (Poppy family), e.g. bloodroot [N0605]
A61K36/67	. . .	Piperaceae (Pepper family), e.g. Jamaican pepper or kava [N0605]
A61K36/68	. . .	Plantaginaceae (Plantain Family) [N0605]
A61K36/69	. . .	Polygalaceae (Milkwort family) [N0605]
A61K36/70	. . .	Polygonaceae (Buckwheat family), e.g. spineflower or dock [N0605]
A61K36/704	. . . .	Polygonum, e.g. knotweed [N0605]
A61K36/708	. . . .	Rheum (rhubarb) [N0605]
A61K36/71	. . .	Ranunculaceae (Buttercup family), e.g. larkspur, hepatica, hydrastis, columbine or goldenseal [N0605]
A61K36/714	. . . .	Aconitum (monkshood) [N0605]
A61K36/716	. . . .	Clematis (leather flower) [N0605]
A61K36/718	. . . .	Coptis (goldthread) [N0605]
A61K36/72	. . .	Rhamnaceae (Buckthorn family), e.g. buckthorn, chewstick or umbrella-tree [N0605]
A61K36/725	. . . .	Ziziphus, e.g. jujube [N0605]
A61K36/73	. . .	Rosaceae (Rose family), e.g. strawberry, chokeberry, blackberry, pear or firethorn [N0605]
A61K36/732	. . . .	Chaenomeles, e.g. flowering quince [N0605]
A61K36/734	. . . .	Crataegus (hawthorn) [N0605]
A61K36/736	. . . .	Prunus, e.g. plum, cherry, peach, apricot or almond [N0605]
A61K36/738	. . . .	Rosa (rose) [N0605]
A61K36/739	. . . .	Sanguisorba (burnet) [N0605]
A61K36/74	. . .	Rubiaceae (Madder family) [N0605]
A61K36/744	. . . .	Gardenia [N0605]
A61K36/746	. . . .	Morinda [N0605]
A61K36/748	. . . .	Oldenlandia or Hedyotis [N0605]
A61K36/75	. . .	Rutaceae (Rue family) [N0605]
A61K36/752	. . . .	Citrus, e.g. lime, orange or lemon [N0605]
A61K36/754	. . . .	Evodia [N0605]
A61K36/756	. . . .	Phellodendron, e.g. corktree [N0605]

A61K36/758	. . . .	Zanthoxylum, e.g. pricklyash [N0605]
A61K36/76	. . .	Salicaceae (Willow family), e.g. poplar [N0605]
A61K36/77	. . .	Sapindaceae (Soapberry family), e.g. lychee or soapberry [N0605]
A61K36/78	. . .	Saururaceae (Lizard's-tail family) [N0605]
A61K36/79	. . .	Schisandraceae (Schisandra family) [N0605]
A61K36/80	. . .	Scrophulariaceae (Figwort family) [N0605]
A61K36/804	. . . .	Rehmannia [N0605]
A61K36/808	. . . .	Scrophularia (figwort) [N0605]
A61K36/81	. . .	Solanaceae (Potato family), e.g. tobacco, nightshade, tomato, belladonna, capsicum or jimsonweed [N0605]
A61K36/815	. . . .	Lycium (desert-thorn) [N0605]
A61K36/82	. . .	Theaceae (Tea family), e.g. camellia [N0605]
A61K36/83	. . .	Thymelaeaceae (Mezereum family), e.g. leatherwood or false ohelo [N0605]
A61K36/835	. . . .	Aquilaria [N0605]
A61K36/84	. . .	Valerianaceae (Valerian family), e.g. valerian [N0605]
A61K36/85	. . .	Verbenaceae (Verbena family) [N0605]
A61K36/855	. . . .	Clerodendrum, e.g. glorybower [N0605]
A61K36/86	. . .	Violaceae (Violet family) [N0605]
A61K36/87	. . .	Vitaceae or Ampelidaceae (Vine or Grape family), e.g. wine grapes, muscadine or peppervine [N0605]
A61K36/88	. .	Liliopsida (monocotyledons) [N0605]
A61K36/882	. . .	Acoraceae (Calamus family), e.g. sweetflag or Acorus calamus [N0605]
A61K36/884	. . .	Alismataceae (Water-plantain family) [N0605]
A61K36/886	. . .	Aloeaceae (Aloe family), e.g. aloe vera [N0605]
A61K36/888	. . .	Araceae (Arum family), e.g. caladium, calla lily or skunk cabbage [N0605]
A61K36/8884	. . . .	Arisaema, e.g. Jack in the pulpit [N0605]
A61K36/8888	. . . .	Pinellia [N0605]
A61K36/889	. . .	Arecaceae, Palmae or Palmaceae (Palm family), e.g. date or coconut palm or palmetto [N0605]
A61K36/8895	. . . .	Calamus, e.g. rattan [N0605]
A61K36/89	. . .	Cyperaceae (Sedge family) [N0605]
A61K36/8905	. . . .	Cyperus (flatsedge) [N0609]
A61K36/894	. . .	Dioscoreaceae (Yam family) [N0605]
A61K36/8945	. . . .	Dioscorea, e.g. yam, Chinese yam or water yam [N0605]
A61K36/896	. . .	Liliaceae (Lily family), e.g. daylily, plantain lily, Hyacinth or narcissus [N0605]
A61K36/8962	. . . .	Allium, e.g. garden onion, leek, garlic or chives [N0605]
A61K36/8964	. . . .	Anemarrhena [N0605]
A61K36/8965	. . . .	Asparagus, e.g. garden asparagus or asparagus fern [N0605]
A61K36/8966	. . . .	Fritillaria, e.g. checker lily or mission bells [N0605]
A61K36/8967	. . . .	Lilium, e.g. tiger lily or Easter lily [N0605]
A61K36/8968	. . . .	Ophiopogon (Lilyturf) [N0605]
A61K36/8969	. . . .	Polygonatum (Solomon's seal) [N0605]
A61K36/898	. . .	Orchidaceae (Orchid family) [N0605]

A61K36/8984	. . . . Dendrobium [N0605]
A61K36/8988	. . . . Gastrodia [N0605]
A61K36/899	. . . Poaceae or Gramineae (Grass family), e.g. bamboo, corn or sugar cane [N0605]
A61K36/8994	. . . . Coix (Job's tears) [N0605]
A61K36/8998	. . . . Hordeum (barley) [N0605]
A61K36/90	. . . Smilacaceae (Catbrier family), e.g. greenbrier or sarsaparilla [N0605]
A61K36/902	. . . Sparganiaceae (Bur-reed family) [N0605]
A61K36/904	. . . Stemonaceae (Stemona family), e.g. croomia [N0605]
A61K36/906	. . . Zingiberaceae (Ginger family) [N0605]
A61K36/9062	. . . . Alpinia, e.g. red ginger or galangal [N0605]
A61K36/9064	. . . . Amomum, e.g. round cardamom [N0605]
A61K36/9066	. . . . Curcuma, e.g. common turmeric, East Indian arrowroot or mango ginger [N0605]
A61K36/9068	. . . . Zingiber, e.g. garden ginger [N0605]

**A61K38/00**

**Medicinal preparations containing peptides** (peptides containing beta-lactam rings [A61K31/00](#); cyclic dipeptides not having in their molecule any other peptide link than those which form their ring, e.g. piperazine-2,5-diones, [A61K31/00](#); ergot alkaloids of the cyclic peptide type [A61K31/48](#); containing macromolecular compounds having statistically distributed amino acid units [A61K31/74](#); medicinal preparations containing antigens or antibodies [A61K39/00](#); medicinal preparations characterised by the non-active ingredients, e.g. peptides as drug carriers, [A61K47/00](#)) [N9412]

**Notes**

1. The terms or expressions used in this group follow exactly the definitions given in Note (1) following the title of subclass C07K.
2. Preparations containing fragments of peptides or peptides modified by removal or addition of amino acids, by substitution of amino acids by others, or by combination of these modifications are classified as the preparations containing parent peptides. However, preparations containing fragments of peptides having only four or less amino acids are also classified in groups [A61K38/05](#) to [A61K38/07](#).
3. Preparations containing peptides prepared by recombinant DNA technology are not classified according to the host, but according to the original peptide expressed, e.g. preparations containing HIV peptide expressed in E. coli are classified with the preparations containing HIV peptides.

[N: **Note**  
[N9805]

1. This group covers also medicinal preparation containing DNA or RNA encoding for peptides as active ingredient.
2. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass C07K or in group [C12N9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.

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A61K38/00A	. [N: Enzyme inhibitors (protease inhibitors <a href="#">A61K38/55</a> )] [N9412]
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- A61K38/01 . Hydrolysed proteins; Derivatives thereof [N9412]
- A61K38/01B . . [N: from plants] [N9809]
- A61K38/01D . . [N: from animals] [N9809]
- A61K38/01D2 . . . [N: from connective tissue peptides, e.g. gelatin, collagen] [N9809]
- A61K38/01D2C . . . . [N: from keratin] [N9809]
- A61K38/01D4 . . . [N: from blood] [N9809]
- A61K38/01D6 . . . [N: from milk] [N9809]
  
- A61K38/02 . Peptides of undefined number of amino acids; Derivatives thereof [N9412]
  
- A61K38/03 . Peptides having up to 20 amino acids in an undefined or only partially defined sequence; Derivatives thereof [N9412]
  
- A61K38/04 . Peptides having up to 20 amino acids in a fully defined sequence; Derivatives thereof ([N: enzyme inhibitors [A61K38/00A](#)]; gastrins [N: [A61K38/22A](#)] somatostatins [A61K38/31](#), melanotropins [A61K38/34](#); [N: protease inhibitors [A61K38/55](#)]) [N9412]
- A61K38/04E . . [N: Kallidins; Bradykinins; Related peptides] [N9806]
- A61K38/04T . . [N: Tachykinins, e.g. eledoisins, substance P; Related peptides] [N9806]
- A61K38/05 . . Dipeptides [N9412]
- A61K38/06 . . Tripeptides [N9412]
- A61K38/06A . . . [N: Glutathione] [N9412]
- A61K38/06B . . . [N: TRH, thyroliberin, thyrotropin releasing hormone] [N9412]
- A61K38/07 . . Tetrapeptides [N9412]
- A61K38/08 . . Peptides having 5 to 11 amino acids [N: ([A61K38/04E](#) to [A61K38/04T](#) take precedence)] [N9412] [C9807]
- A61K38/08A . . . [N: Angiotensins] [N9412] [M1112]
- A61K38/09 . . . Luteinising hormone-releasing hormone (LHRH) [N: i.e. Gonadotropin-releasing hormone (GnRH)]; Related peptides [N9412] [M1108]
- A61K38/10 . . Peptides having 12 to 20 amino acids [N: ([A61K38/04E](#) to [A61K38/04T](#) take precedence)] [N9412] [C9807]
- A61K38/10D . . . [N: Bombesin; Related peptides] [N9806]
- A61K38/11 . . . Oxytocins; Vasopressins; Related peptides [N9412]
- A61K38/12 . . Cyclic peptides [N: , e.g. bacitracins; Polymyxins; Gramicidins S, C; Tyrocidins A, B or C ([A61K38/04E](#) to [A61K38/04T](#) take precedence)] [N9412] [C1109]
- A61K38/13 . . . Cyclosporins [N9412]
- A61K38/14 . . Peptides containing saccharide radicals; Derivatives thereof [N: e.g. bleomycin, phleomycin, muramylpeptides or vancomycin] [N9412] [M1109]
- A61K38/15 . . Depsipeptides; Derivatives thereof [N9412]
  
- A61K38/16 . Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof [N: (enzyme inhibitors [A61K38/00A](#))] [N9412]
- A61K38/16A . . [N: from virus] [N9412]
- A61K38/16B . . [N: from bacteria] [N9412]
- A61K38/16B1 . . . [N: Streptokinase] [N9612]
- A61K38/16C . . [N: from plants] [N9412]
- A61K38/17 . . from animals; from humans [N:(enzyme inhibitors [A61K38/00A](#))] [N9412]

A61K38/17A	. . .	[N: from vertebrates ( <a href="#">A61K38/17B</a> takes precedence)] [M1112]
A61K38/17A1	. . . .	[N: from fish] [N1112]
A61K38/17A2	. . . .	[N: from mammals] [N9412]
A61K38/17A2B	. . . . .	[N: Not used, see subgroup] [N9703]
A61K38/17A2B3	. . . . .	[N: Amyloid plaque core protein] [N1112]
A61K38/17A2B7	. . . . .	[N: Muscle proteins, e.g. myosin, actin] [N1112]
A61K38/17A2B8	. . . . .	[N: Plasma globulins, lactoglobulin] [N1112]
A61K38/17A2B11	. . . . .	[N: Complement proteins, e.g. anaphylatoxin, C3a, C5a] [N1112]
A61K38/17A2B14	. . . . .	[N: Cationic antimicrobial peptides, e.g. defensins] [N1112]
A61K38/17A2B16	. . . . .	[N: Lectins] [N1112]
A61K38/17A2B17	. . . . .	[N: Mucins, e.g. human intestinal mucin] [N1112]
A61K38/17A2B18	. . . . .	[N: Calcium binding proteins, e.g. calmodulin] [N1112]
A61K38/17A2B19	. . . . .	[N: alpha-Glycoproteins] [N1112]
A61K38/17A2B25	. . . . .	[N: C-reactive protein] [N1112]
A61K38/17A2B28	. . . . .	[N: Keratin; Cytokeratin] [N1112]
A61K38/17A2B29	. . . . .	[N: Bactericidal/permeability-increasing protein (BPI)] [N9703]
A61K38/17A2B30	. . . . .	[N: Insulin-like growth factor binding protein] [N1112]
A61K38/17A2B32	. . . . .	[N: p53] [N1112]
A61K38/17A2B33	. . . . .	[N: Apoptosis related proteins, e.g. Apoptotic protease-activating factor-1 (APAF-1), Bax, Bax-inhibitory protein(s) (BI; bax-I), Myeloid cell leukemia associated protein (MCL-1), Inhibitor of apoptosis (IAP), Bcl-2] [N1112]
A61K38/17A2B34	. . . . .	[N: Tumor specific antigens; Tumor rejection antigen precursors (TRAP), e.g. MAGE] [N1112]
A61K38/17B	. . .	[N: from invertebrates] [N1112]
A61K38/17C	. . .	[N: Receptors; Cell surface antigens; Cell surface determinants] [N9412]
A61K38/17C1	. . . .	[N: Immunoglobulin superfamily (e.g. CD2, CD4, CD8, ICAM molecules, B7 molecules, Fc-receptors, MHC-molecules) [N1112]
A61K38/17C2	. . . .	[N: Integrin superfamily] [N1112]
A61K38/17C3	. . . .	[N: Lectin superfamily, e.g. selectins] [N1112]
A61K38/17C4	. . . .	[N: Nuclear receptors, e.g. retinoic acid receptor (RAR), RXR, nuclear orphan receptors] [N1112]
A61K38/17C5	. . . .	[N: for neuromediators, e.g. serotonin receptor, dopamine receptor] [N1112]
A61K38/17C13	. . . .	[N: for growth factors; for growth regulators] [N1112]
A61K38/17C14	. . . .	[N: for cytokines; for lymphokines; for interferons] [N1112]
A61K38/17C15	. . . .	[N: for hormones ( <a href="#">for neuromediators A61K38/17C5</a> )] [N1112]
A61K38/18	. . .	Growth factors; Growth regulators [N9412]
A61K38/18A	. . . .	[N: Epidermal growth factor (EGF) urogastrone] [N9412]
A61K38/18B	. . . .	[N: Erythropoietin (EPO)] [N9412]
A61K38/18C	. . . .	[N: Fibroblast growth factor (FGF)] [N9412]
A61K38/18D	. . . .	[N: Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II] [N9609]
A61K38/18E	. . . .	[N: Transforming growth factor (TGF)] [N9412] [C9609]
A61K38/18F	. . . .	[N: Nerve growth factor (NGF); Brain derived neurotrophic factor (BDNF);

		Ciliary neurotrophic factor (CNTF); Glial derived neurotrophic factor (GDNF); Neurotrophins, e.g. NT-3] [N9609] [C9707]
A61K38/18G	. . . .	[N: Platelet-derived growth factor (PDGF)] [N9609]
A61K38/18G1	. . . . .	[N: Vascular endothelial growth factor (VEGF)] [N1112]
A61K38/18H	. . . .	[N: Bone morphogenetic factor; Osteogenins; Osteogenic factor; Bone-inducing factor] [N9609]
A61K38/18J	. . . .	[N: Neuregulins, e.g.. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor] [N1112]
A61K38/18K	. . . .	[Angiogenesis factors; Angiogenin] [N1112]
A61K38/19	. . . .	Cytokines; Lymphokines; Interferons [N9412]
A61K38/19A	. . . .	[N: Tumor necrosis factors [TNF], e.g. lymphotoxin [LT] i.e. TNF-beta] [N9412] [M1109]
A61K38/19B	. . . .	[N: Colony stimulating factors [CSF]] [N9412] [M1109]
A61K38/195	. . . .	[N: Chemokines, e.g. RANTES] [N1112]
A61K38/196	. . . .	[N: Thrombopoietin] [N1112]
A61K38/20	. . . .	Interleukins [IL] [N9412] [M1109]
A61K38/20A	. . . . .	[N: IL-1] [N9412]
A61K38/20B	. . . . .	[N: IL-2] [N9412]
A61K38/20C	. . . . .	[N: IL-3] [N1112]
A61K38/20D	. . . . .	[N: IL-4] [N9707]
A61K38/20E	. . . . .	[N: IL-5] [N1112]
A61K38/20F	. . . . .	[N: IL-6] [N9707]
A61K38/20G	. . . . .	[N: IL-7] [N1112]
A61K38/20H	. . . . .	[N: IL-8] [N9707]
A61K38/20J	. . . . .	[N: IL-9] [N1112]
A61K38/20K	. . . . .	[N: IL-10] [N9707]
A61K38/20L	. . . . .	[N: IL-11] [N9707]
A61K38/20M	. . . . .	[N: IL-12] [N9707]
A61K38/20N	. . . . .	[N: IL-13 to IL-16] [N1112]
A61K38/20T	. . . . .	[N: Leukaemia inhibitory factor (LIF)] [N9707]
A61K38/21	. . . .	Interferons [N: (IFN)] [N9412] [C9707]
A61K38/21A	. . . . .	[N: IFN-alpha] [N9412]
A61K38/21B	. . . . .	[N: IFN-beta] [N9412]
A61K38/21C	. . . . .	[N: IFN-gamma] [N9412]
A61K38/22	. . . .	Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin <a href="#">A61K38/33</a> , e.g. corticotropin <a href="#">A61K38/35</a> ) [N9412]
A61K38/22A	. . . .	[N: Gastrins; Cholecystokinins [CCK]] [N9412] [M1108]
A61K38/22B	. . . .	[N: Motilins] [N9412]
A61K38/22C	. . . .	[N: Relaxins] [N9412]
A61K38/22D	. . . .	[N: Corticotropin releasing factor (CRF) (Urotensin) ] [N1112]
A61K38/22E	. . . .	[N: Secretins] [N9412]
A61K38/22F	. . . .	[N: Atrial natriuretic factor complex: Atriopeptins, atrial natriuretic protein (ANP); Cardionatrin, Cardiodilatin] [N9412]
A61K38/22G	. . . .	[N: Calcitonin gene related peptide] [N9806]

A61K38/22H	. . . .	[N: Prolactin] [N9806]
A61K38/22K	. . . .	[N: Obesity-gene products, e.g. leptin] [N9809] [M1109]
A61K38/22L	. . . .	[N: Neuropeptide Y] [N1112]
A61K38/22M	. . . .	[N: Vasoactive intestinal peptide (VIP); Related peptides (e.g. Exendin)] [N1112]
A61K38/22N	. . . .	[N: Endothelin, vasoactive intestinal contractor (VIC)] [N1112]
A61K38/22P	. . . .	[N: Thymosin; Related peptides] [N1112]
A61K38/23	. . . .	Calcitonins [N9412]
A61K38/24	. . . .	Follicle-stimulating hormone (FSH); Chorionic gonadotropins, e.g. HCG; Luteinising hormone (LH); Thyroid-stimulating hormone (TSH) [N9412]
A61K38/25	. . . .	Growth hormone-releasing factor (GH-RF) (Somatoliberin) [N9412]
A61K38/26	. . . .	Glucagons [N9412]
A61K38/27	. . . .	Growth hormone (GH) (Somatotropin) [N9412]
A61K38/28	. . . .	Insulins [N9412]
A61K38/29	. . . .	Parathyroid hormone (parathormone); Parathyroid hormone-related peptides [N9412]
A61K38/30	. . . .	Insulin-like growth factors (somatomedins), e.g. IGF-1, IGF-2 [N: insulin-like growth factor binding protein <a href="#">A61K38/17A2B30</a> ] [N9412] [M1112]
A61K38/31	. . . .	Somatostatins [N9412]
A61K38/32	. . . .	Thymopoietins [N9412]
A61K38/33	. . . .	derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin [N9412]
A61K38/34	. . . .	Melanocyte stimulating hormone (MSH), e.g. alpha- or beta-melanotropin [N9412]
A61K38/35	. . . .	Corticotropin (ACTH) [N9412]
A61K38/36	. . . .	Blood coagulation or fibrinolysis factors [N9412]
A61K38/36A	. . . .	[N: Fibrinogen] [N9412]
A61K38/36B	. . . .	[N: Thrombomodulin] [N1112]
A61K38/37	. . . .	Factors VIII [N9412]
A61K38/38	. . . .	Albumins [N9412]
A61K38/38A	. . . .	[N: Serum albumin] [N1112]
A61K38/39	. . . .	Connective tissue peptides, e.g. collagen, elastin, laminin, fibronectin, vitronectin, cold insoluble globulin (CIG) [N9412]
A61K38/395	. . . .	[N: Alveolar surfactant peptides; Pulmonary surfactant peptides] [N1112]
A61K38/40	. . . .	Transferrins, e.g. lactoferrins, ovotransferrins [N9412]
A61K38/41	. . . .	Porphyrin- or corrin-ring-containing peptides [N9412]
A61K38/415	. . . .	[N: Cytochromes] [N1112]
A61K38/42	. . . .	Haemoglobins; Myoglobins [N9412]
A61K38/43	. . . .	Enzymes; Proenzymes; Derivatives thereof [N9412]

**[N: Notes**

[M1204]In this group, 1. proenzymes are classified with the corresponding enzymes; 2. enzymes are generally categorised according to the "Nomenclature and Classification of Enzymes" of the International Commission of Enzymes. Where appropriate, this designation appears in the subgroups below in parenthesis. 3. the specific enzyme(s) used are additionally classified in C12Y.

]

A61K38/44	. . .	Oxidoreductases (1) [N9412]
A61K38/44A	. . . .	[N: acting on CH-OH groups as donors, e.g. glucose oxidase, lactate dehydrogenase (1.1)] [N9412]
A61K38/44B	. . . .	[N: Superoxide dismutase (1.15)] [N9412]
A61K38/45	. . .	Transferases (2) [N9412]
A61K38/46	. . .	Hydrolases (3) [N9412]
A61K38/46A	. . . .	[N: acting on ester bonds (3.1), e.g. lipases, ribonucleases] [N1112]
A61K38/47	. . . .	acting on glycosyl compounds (3.2), e.g. cellulases, lactases [N9412]
A61K38/48	. . . .	acting on peptide bonds (3.4) [N9412]
A61K38/48F	. . . . .	[N: from animals other than mammals, e.g. snakes] [N9611]
A61K38/48H	. . . . .	[N: Exopeptidases (3.4.11. to 3.4.19)] [N9611]
A61K38/48K	. . . . .	[N: Serine endopeptidases (3.4.21)] [N9611]
A61K38/48K1	. . . . .	[N: Trypsin (3.4.21.4) Chymotrypsin (3.4.21.1)] [N9611]
A61K38/48K5	. . . . .	[N: Thrombin (3.4.21.5)] [N9611]
A61K38/48K7	. . . . .	[N: Plasmin (3.4.21.7)] [N9611]
A61K38/48K21	. . . . .	[N: Factor VII (3.4.21.21); Factor IX (3.4.21.22); Factor Xa (3.4.21.6); Factor XI (3.4.21.27); Factor XII (3.4.21.38)] [N9611]
A61K38/48K34	. . . . .	[N: Kallikrein (3.4.21.34 or 3.4.21.35)] [N9611]
A61K38/48K36	. . . . .	[N: Elastase (3.4.21.36 or 3.4.21.37)] [N9611]
A61K38/48K69	. . . . .	[N: Protein C (3.4.21.69)] [N9611]
A61K38/48L	. . . . .	[N: Cysteine endopeptidases (3.4.22), e.g. stem bromelain, papain, ficin, cathepsin H] [N9611]
A61K38/48M	. . . . .	[N: Aspartic endopeptidases (3.4.23), e.g. pepsin, chymosin, renin, cathepsin E] [N9611]
A61K38/48N	. . . . .	[N: Metalloendopeptidases (3.4.24), e.g. collagenase] [N9611]
A61K38/48N1	. . . . .	[N: Botulinum neurotoxin (3.4.24.69)] [N1112]
A61K38/49	. . . . .	Urokinase; Tissue plasminogen activator [N9412]
A61K38/50	. . . .	acting on carbon-nitrogen bonds, other than peptide bonds (3.5), e.g. asparaginase [N9412]
A61K38/51	. . .	Lyases (4) [N9412]
A61K38/52	. . .	Isomerases (5) [N9412]
A61K38/53	. . .	Ligases (6) [N9412]
A61K38/54	. . .	Mixtures of enzymes or proenzymes covered by more than a single one of groups <a href="#">A61K38/44</a> to <a href="#">A61K38/46</a> or <a href="#">A61K38/51</a> to <a href="#">A61K38/53</a> [N9412]
A61K38/55	. .	Protease inhibitors [N9412]
A61K38/55A	. . .	[N: Renin inhibitors] [N9412]
A61K38/55B	. . .	[N: Angiotensin converting enzyme inhibitors] [N9412]
A61K38/56	. . .	from plants [N9412]
A61K38/57	. . .	from animals; from humans [N: ( <a href="#">A61K38/55A</a> , <a href="#">A61K38/55B</a> take precedence)] [N9412]
A61K38/58	. . . .	from leeches, e.g. hirudin, eglin [N9412]
<b>A61K39/00</b>		<b>Medicinal preparations containing antigens or antibodies (materials for immunoassay <a href="#">G01N33/53</a>) [C9805]</b>

**Notes**

1. Groups [A61K39/002](#) to [A61K39/295](#) cover preparations containing protozoa, bacteria, viruses, or subunits thereof, e.g. membrane parts.
2. Preparation of antigen or antibody compositions is also classified in subclass C12N, if the step of cultivating the micro-organism is of interest.

[N: **Notes**  
[N9805]

1. Documents relating to new peptides, e.g. enzymes, or new DNA or RNA encoding for peptides and their use in medicinal preparations are classified in subclass C07K or in group [C12N9/00](#) according to the peptides, with the appropriate indexing codes relating to their medical uses.
2. Documents relating to antibodies or DNA or RNA encoding for antibodies and their use in medicinal preparations are classified in group [C07K16/00](#) or in group [C12N9/00B](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
3. Documents relating to new therapeutical uses of antibodies or DNA or RNA encoding for antibodies are classified in group [C07K16/00](#) or in group [C12N9/00B](#) according to the antibodies, with the appropriate indexing codes relating to their medical uses.
4. Documents relating to medicinal preparations containing different antibodies as active ingredients are classified in group [C07K16/00](#) according to the different active antibodies, with the appropriate indexing codes relating to their medical uses. However, documents relating to medicinal preparations containing antibodies and other compounds as active ingredients are classified in groups [A61K39/395](#) to [A61K39/42](#), in association with symbol [K61K300/00](#) in Combination Sets.

]

- [A61K39/00A](#) . [N: Archaeal antigens] [N0509]
- [A61K39/00B](#) . [N: Fungal antigens, e.g. Trichophyton, Aspergillus, Candida]
- [A61K39/00C](#) . [N: Invertebrate antigens] [N0207]
- [A61K39/00D](#) . [N: Vertebrate antigens (from snakes [A61K39/38](#))] [C0204]
- [A61K39/00D2](#) . . [N: Contraceptive vaccins; Vaccines against sex hormones] [N0207]
- [A61K39/00D3](#) . . [N: Nervous system antigens; Prions] [N0209]
- [A61K39/00D4](#) . . [N: Antigens related to auto-immune diseases; Preparations to induce self-tolerance] [N0204]
- [A61K39/00D5](#) . . [N: Preparations to induce tolerance to non-self, e.g. prior to transplantation] [N0207]
- [A61K39/00D6](#) . . [N: Cancer antigens] [N0204]
- [A61K39/00D8](#) . . [N: Lipids; Lipoproteins] [N0207]
- [A61K39/00E](#) . [N: Therapeutic immunisation against small organic molecules, e.g. cocaine, nicotine] [N0509]

- A61K39/00M . [N: Combination vaccines based on measles-mumps-rubella ] [N1204]
- A61K39/00P . [N: Combination vaccines based on diphtheria-tetanus-pertussis ] [N1204]
- A61K39/00P1 . . [N: Combination vaccines based on whole cell diphtheria-tetanus-pertussis ] [N1204]
- A61K39/00P2 . . [N: Combination vaccines based on acellular diphtheria-tetanus-pertussis ] [N1204]
- A61K39/002 . Protozoa antigens
- A61K39/005 . . Trypanosoma antigens
- A61K39/008 . . Leishmania antigens
- A61K39/012 . . Coccidia antigens
- A61K39/015 . . Hemosporidia antigens, e.g. Plasmodium antigens
- A61K39/018 . . . Babesia antigens, e.g. Theileria antigens
- A61K39/02 . Bacterial antigens
- A61K39/02A . . [N: Specific bacteria not otherwise provided for] [N0509]
- A61K39/02C . . [N: Bacteroidetes, e.g. Bacteroides, Ornithobacter, Porphyromonas] [N0509]
- A61K39/02D . . [N: Spirochetes, e.g. Treponema, Leptospira, Borrelia] [C0509]
- A61K39/02E . . [N: Rickettsiales, e.g. Anaplasma]
- A61K39/02M . . [N: Mollicutes, e.g. Mycoplasma, Erysipelothrix] [N0509]
- A61K39/02T . . [N: Enterobacteriales, e.g. Enterobacter] [N0509] [C1207]
- A61K39/02T1 . . . [N: Escherichia] [N0509]
- A61K39/02T2 . . . [N: Klebsiella] [N0509]
- A61K39/02T3 . . . [N: Salmonella] [N0509]
- A61K39/02T4 . . . [N: Shigella] [N0509]
- A61K39/02T5 . . . [N: Yersinia] [N1204]
- A61K39/04 . . Mycobacterium, e.g. Mycobacterium tuberculosis
- A61K39/05 . . [N: Actinobacteria, e.g. Actinomyces, Streptomyces, Nocardia, Bifidobacterium, Gardnerella], Corynebacterium; Propionibacterium [N: ([Mycobacterium A61K39/04](#))] [C0509]
- A61K39/07 . . Bacillus
- A61K39/08 . . Clostridium, e.g. Clostridium tetani
- A61K39/085 . . Staphylococcus
- A61K39/09 . . [N: Lactobacillales, e.g. aerococcus, enterococcus, lactobacillus, lactococcus], streptococcus
- A61K39/09A . . . [N: Streptococcus] [N0509]
- A61K39/095 . . Neisseria
- A61K39/098 . . [N: Brucella] [N1204]
- A61K39/099 . . [N: Bordetella] [N1204]
- A61K39/102 . . [N: Pasteurellales, e.g. Actinobacillus], Pasteurella; Haemophilus [C0509]
- A61K39/104 . . [N: Pseudomonadales, e.g.] Pseudomonas
- A61K39/104M . . . [N: Moraxella] [N0509]
- A61K39/105 . . [N: Delta proteobacteriales, e.g. Lawsonia; Epsilon proteobacteriales, e.g. campylobacter, helicobacter] [N1204]

- A61K39/107 . . [N: Vibrio] [N1204]
- A61K39/114 . . Fusobacterium
- A61K39/116 . . Polyvalent bacterial antigens
  
- [N: **WARNING**  
[N1207]This group is no longer used for the classification of new documents as from April 1, 2012. The backlog of this group is being continuously reclassified to subgroups of [A61K39/00P](#) and of [A61K39/02](#)  
]
- A61K39/118 . . Chlamydiaceae, e.g. Chlamydia trachomatis or Chlamydia psittaci
  
- A61K39/12 . . Viral antigens
- A61K39/125 . . . Picornaviridae, e.g. calicivirus
- A61K39/13 . . . . Poliovirus
- A61K39/135 . . . . Foot- and mouth-disease virus
- A61K39/145 . . . Orthomyxoviridae, e.g. influenza virus
- A61K39/15 . . . Reoviridae, e.g. calf diarrhea virus
- A61K39/155 . . . Paramyxoviridae, e.g. parainfluenza virus
- A61K39/165 . . . . Mumps or measles virus
- A61K39/17 . . . . Newcastle disease virus
- A61K39/175 . . . . Canine distemper virus
- A61K39/187 . . . Hog cholera virus
- A61K39/193 . . . Equine encephalomyelitis virus
- A61K39/20 . . . Rubella virus
- A61K39/205 . . . Rhabdoviridae, e.g. rabies virus
- A61K39/21 . . . Retroviridae, e.g. equine infectious anemia virus
- A61K39/215 . . . Coronaviridae, e.g. avian infectious bronchitis virus
- A61K39/225 . . . . Porcine transmissible gastroenteritis virus
- A61K39/23 . . . Parvoviridae, e.g. feline panleukopenia virus
- A61K39/235 . . . Adenoviridae
- A61K39/245 . . . Herpetoviridae, e.g. herpes simplex virus
- A61K39/25 . . . . Varicella-zoster virus
- A61K39/255 . . . . Marek's disease virus
- A61K39/265 . . . . Infectious rhinotracheitis virus
- A61K39/27 . . . . Equine rhinopneumonitis virus
- A61K39/275 . . . Poxviridae, e.g. avipoxvirus
- A61K39/285 . . . . Vaccinia virus or variola virus
- A61K39/29 . . . Hepatitis virus
- A61K39/29B . . . . [N: Serum hepatitis virus, hepatitis B virus, e.g. Australia antigen]
- A61K39/295 . . . Polyvalent viral antigens ([vaccinia virus or variola virus A61K39/285](#)); Mixtures of viral and bacterial antigens

[N: **WARNING**

[N1207]This group is no longer used for the classification of new documents as from April 1, 2012. The backlog of this group is being continuously reclassified to

[A61K39/00M](#), to subgroups of [A61K39/00P](#) and of [A61K39/12](#)  
]

- A61K39/35 . Allergens
- A61K39/36 . . from pollen
- A61K39/38 . Antigens from snakes
- A61K39/385 . Haptens or antigens, bound to carriers
- A61K39/39 . characterised by the immunostimulating additives, e.g. chemical adjuvants
- A61K39/395 . Antibodies ([agglutinins A61K38/36](#); [N: as drug carriers [A61K47/48](#)]); Immunoglobulins; Immune serum, e.g. antilymphocytic serum [C9805]
- A61K39/395A . . [N: from milk, i.e. lactoglobulins]
- A61K39/395B . . [N: from serum, plasma]
- A61K39/395B1 . . . [N: Purification]
- A61K39/395C . . [N: against materials from animals]
- A61K39/395C1 . . . [N: against normal tissues, cells]
- A61K39/395C2 . . . [N: against proteinaceous materials, e.g. enzymes, hormones, lymphokines]
- A61K39/395C3 . . . [N: against tumor tissues, cells, antigens]
- A61K39/395C4 . . . [N: against immunoglobulins, e.g. anti-idiotypic antibodies]
- A61K39/395D . . [N: against materials from other living beings excluding bacteria and viruses, e.g. protozoa, fungi, plants]
- A61K39/395E . . [N: against materials not provided for elsewhere, e.g. haptens, coenzymes]
- A61K39/395S . . [N: Stabilisation, fragmentation]
- A61K39/40 . . bacterial
- A61K39/42 . . viral
- A61K39/44 . . Antibodies bound to carriers
  
- A61K41/00** **Medicinal preparations obtained by treating materials with wave energy or particle radiation;** [N: Therapies using these preparations] ([A61K31/59](#) takes precedence; generation of ultrasonic waves [B06B](#); electric discharge tubes [H01J](#)) [C9701]
- A61K41/00D . [N: Homeopathy; Vitalisation; Resonance; Dynamisation, e.g. esoteric applications; Oxygenation of blood] [N9701]
- A61K41/00H . [N: Inactivation or decontamination of a medicinal preparation prior to administration to the animal or human, e.g. : inactivation of viruses or bacteria for vaccines, sterilisation by electromagnetic radiation] [N9701] [M1207]
- [N: **Notes**  
See [A61K41/00H6](#) for the specific method; see [A61L2/00P2R](#) if the invention lies in the method of sterilization of the medicinal preparation rather than the sterilized medicinal preparation  
]
- A61K41/00H4 . . [N: by ultrasonic waves] [N9701]
- A61K41/00H6 . . [N: by UV, IR, Rx or gamma rays] [N9701]

- A61K41/00K . [N: Agression treatment or altering] [N9701] [M1207]
- [N: **Notes**  
This groups covers aggression treatment or altering - of a medicinal preparation prior to administration to the human/animal, e.g. altering a binding specificity of a monoclonal antibody used in a medicinal agent with an oxidizing agent or an electric potential; - of a tissue/organ prior to graft, e.g. destroying immunodominant epitopes; - the permeability of cell membranes or biological barriers in vivo, e.g. by ultrasound, prior to the administration of a medicinal preparation to the animal/human; - for inducing the production of stress response proteins or heat shock proteins in order to reduce subsequent response to injuries  
]
- A61K41/00M . [N: Disruption, e.g. by heat or ultrasounds, sonophysical or sonochemical activation; e.g. thermosensitive or heat-sensitive liposomes, disruption of calculi with a medicinal preparation and ultrasounds] [N1205]
- A61K41/00M4 . . [N: Sonodynamic cancer therapy with sonochemically active agents or sonosensitizers, having their cytotoxic effects enhanced through application of ultrasounds (ultrasound therapy per se A61N7/00)] [N1205]
- A61K41/00P . [N: Radiosensitizing, i.e. administration of pharmaceutical agents that enhance the effect of radiotherapy (radiotherapy per se A61N5/10)] [N1205]
- A61K41/00R . [N: Photocleavage of drugs in vivo, e.g. cleavage of photolabile linkers in vivo by UV radiation for releasing the pharmacologically-active agent from the administered agent; photothrombosis or photoocclusion] [N1205]
- A61K41/00T . [N: Sonophoresis, i.e. ultrasonically-enhanced transdermal delivery, electroporation of a pharmacologically active agent] [N9701] [M1207]
- [N: **Notes**[M1207]  
To be classified in [A61K9/00L8](#) when it is in relation to the galenic form]  
]
- A61K41/00U . [N: Thermotherapy; Hyperthermia; Magnetic induction; Induction heating therapy] [N9701]
- [N: **Notes**[M1207]  
simple magnetic guidance of drugs in vivo is to be classified in [A61K41/00](#), and in [A61K47/48W8F](#)  
]
- A61K41/00W . [N: Photodynamic therapy with a photosensitizer, i.e. agent able to produce reactive oxygen species upon exposure to light or radiation, e.g. UV or visible light; photocleavage of nucleic acids with an agent] [N1205]
- A61K41/00W4 . . [N: 5-aminolevulinic acid-based PDT: 5-ALA-PDT involving porphyrins or precursors of protoporphyrins generated in vivo from 5-ALA] [N1205]
- A61K41/00W8 . . [N: Psoralene-activated UV-A photochemotherapy (PUVA-therapy), e.g. for treatment of psoriasis or eczema, extracorporeal photopheresis with psoralens or fucocoumarins] [N1205]
- A61K41/00W9 . . [N: PDT with porphyrins having exactly 20 ring atoms, i.e. based on the non-expanded tetrapyrrolic ring system, e.g. bacteriochlorin, chlorin-e6, or phthalocyanines] [N1205]
- A61K41/00W10 . . [N: PDT with expanded (metallo)porphyrins, i.e. having more than 20 ring atoms, e.g. texaphyrins, sapphyrins, hexaphyrins, pentaphyrins, porphocyanines] [N1205]

- A61K41/00W16 . . [N: Two-Photon or Multi-Photon PDT, e.g. with upconverting dyes or photosensitisers] [N0103]
- A61K41/00Y . [N: Mossbauer effect therapy based on mossbauer effect of a material, i.e. re-emission of gamma rays after absorption of gamma rays by the material; selective radiation therapy, i.e. involving re-emission of ionizing radiation upon exposure to a first ionizing radiation] [N1205]
- A61K41/00Z . [N: Neutron capture therapy, e.g. using uranium or non-boron material] [N1205]
- A61K41/00Z4 . . [N: Boron neutron capture therapy, i.e. BNCT, e.g. using boronated porphyrins] [N1205]
- A61K45/00 Medicinal preparations containing active ingredients not provided for in groups [A61K31/00](#) to [A61K41/00](#)**
- A61K45/05 . [N: IPC6] Immunological preparations stimulating the reticulo-endothelial system, e.g. against cancer
- A61K45/06 . Mixtures of active ingredients without chemical characterisation, e.g. antiphlogistics and cardiaca
- A61K47/00 Medicinal preparations characterised by the non-active ingredients used, e.g. carriers, inert additives [C0907]**
- A61K47/02 . Inorganic compounds
- A61K47/06 . Organic compounds, [N: e.g. mineral oil, petrolatum, synthetic polyolefins] [C0907]
- A61K47/08 . . containing oxygen, [N: e.g. ethers, acetals, ketones, quinones, aldehydes, peroxides] [C9803]
- A61K47/10 . . . Alcohols; Phenols; Salts thereof, [N: e.g. glycerol; Polyethylene glycol (PEG); Poloxamers; PEG/POE alkyl ethers (sugar alcohols [A61K47/26](#); copolymers containing polyalkylene glycol or poloxamer [A61K47/34](#))] [C0912]
- A61K47/12 . . . Carboxylic acids; Salts or anhydrides thereof
- A61K47/14 . . . Esters of carboxylic acids [N: e.g. fatty acid monoglycerides, medium-chain triglycerides, parabens] [C0907]
- A61K47/16 . . containing nitrogen, [N: e.g. nitro-, nitroso-, azo-compounds, nitriles, cyanates] [C9803]
- A61K47/18 . . . Amines; Quaternary ammonium compounds, [N: e.g. amides, ureas] [C0907]
- A61K47/18B . . . . [N: Amino acids or aminosulphonic acids, e.g. glycine, EDTA, aspartame] [C0907]
- A61K47/18D . . . . [N: Quaternary ammonium compounds, e.g. benzalkonium chloride, cetrimide] [C0907]
- A61K47/20 . . containing sulfur, [N: e.g. DMSO, docusate, sodium lauryl sulfate ([A61K47/18B](#), [A61K47/18D](#) take precedence)] [C0907]
- A61K47/22 . . Heterocyclic compounds, [N: e.g. ascorbic acid, tocopherol, pyrrolidones ([A61K47/18B](#), [A61K47/18D](#) take precedence)] [C0912]
- A61K47/24 . . containing atoms other than carbon, hydrogen, oxygen, halogen, nitrogen or sulfur, [N: e.g. cyclomethicone, phospholipids] [C0907]
- A61K47/26 . . Carbohydrates, [N: e.g. mono-, di-, oligosaccharides, nucleic acids, sugar alcohols, amino sugars; Derivatives thereof, e.g. polysorbates, sorbitan fatty acid esters,

- glycyrrhizin ([A61K47/18B](#), [A61K47/18D](#) take precedence) [C0907]
- A61K47/28 . . Steroids, [N: e.g. cholesterol, bile acids, glycyrrhetic acid ([A61K47/18B](#), [A61K47/18D](#) take precedence)] [C0907]
- A61K47/30 . Macromolecular compounds [C9803]
- A61K47/32 . . Macromolecular compounds obtained by reactions only involving carbon-to-carbon unsaturated bonds, [N: e.g. carbomers, poly(meth)acrylates, polyvinyl pyrrolidone] [C0907]
- A61K47/34 . . Macromolecular compounds obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, [N: e.g. polyesters, polyamino acids, polysiloxanes, copolymers of polyalkylene glycol or poloxamer (PEG or poloxamers [A61K47/10](#))] [C0907]
- [N: **Notes** [N0907]  
This group does not cover polyalkoxylated compounds, which are classified according to the derivatized compounds. The following list provides examples of such polyalkoxylated compounds together with their relevant group:  
- POE alkyl ethers [A61K47/10](#)  
- PEG fatty acid esters [A61K47/14](#)  
- poloxamines [A61K47/18](#)  
- polysorbates [A61K47/26](#)  
- POE castor oil [A61K47/44](#)  
]
- A61K47/36 . . Polysaccharides; Derivatives thereof, [N: e.g. gums, starch, alginate, dextrin, hyaluronic acid, chitosan, inulin, agar, pectin] [C0307]
- A61K47/38 . . . Cellulose; Derivatives thereof
- A61K47/40 . . . Cyclodextrins; Derivatives thereof [N: (cyclodextrin inclusion compounds [A61K47/48W18B](#))] [C0210]
- A61K47/42 . . Proteins; Polypeptides; Degradation products thereof; Derivatives thereof [N: e.g. albumin, gelatin, zein (oligopeptides having up to 5 amino acids [A61K47/18B](#); polyamino acids [A61K47/34](#))] [C0907]
- A61K47/44 . Oils, fats or waxes according to more than one of groups [A61K47/02](#) to [A61K47/42](#); [N: Natural or modified natural oils, fats or waxes, e.g. (polyethoxylated) castor oil, montan wax, ozokerite, lignite, shellac, rosin, beeswax, lanolin (synthetic glycerides, e.g. medium-chain triglycerides [A61K47/14](#))] [C0907]
- A61K47/46 . Ingredients of undetermined constitution or reaction products thereof, [N: e.g. skin, bone, milk, cotton fiber, eggshell, oxgall, plant extracts] [C0907]
- A61K47/48 . the non-active ingredient being chemically bound to the active ingredient, e.g. polymer drug conjugates
- A61K47/48H . . [N: the pharmacologically- or therapeutically-active agent being covalently bound or complexed to a modifying agent]
- [N: **Note**  
The modifying agent being a macromolecular compound [A61K47/48K](#), a peptide, protein or polyamino acid [A61K47/48R](#), an antibody or immunoglobulin [A61K47/48T](#)  
]
- A61K47/48H2 . . . [N: the modifying agent being an inorganic compound; e.g. inorganic ion that being chemically complexed with the pharmacologically- or therapeutically-active agent ([A61K47/48H4W](#) takes precedence)]

[N: **Note**

Classic ion pairs of medicinal agents are not classified in [A61K47/48](#) but in [A61K31/00](#)  
]

- [A61K47/48H4](#) . . . [N: the modifying agent being an organic compound (A61K47/48H4W takes precedence)] [N1205]
- [A61K47/48H4A](#) . . . . [N: the modifying agent being an organic ion that forms an ion pair complex with the pharmacologically or therapeutically active agent.] [N1205]
- [A61K47/48H4C](#) . . . . [N: the modifying agent being a carboxylic acid, e.g. a fatty acid or an amino acid]

[N: **Note**

When covalently linked to the pharmacologically or therapeutically-active agent, it can be via its carboxylic function or via another chemical function leaving the carboxylic function free

]

- [A61K47/48H4F](#) . . . . [N: the modifying agent being a lipid, e.g. a triglyceride; the modifying agent being a polyamine, e.g. spermine or spermidine]

[N: **Note**

Fatty acid conjugates are classified in [A61K47/48H4C](#); cholesterol conjugates are classified in [A61K47/48H4R](#)

]

- [A61K47/48H4F4](#) . . . . . [N: the modifying agent being a phospholipid.] [N1205]
- [A61K47/48H4H](#) . . . . . [N: the modifying agent being a heterocyclic compound (A61K47/48H4V takes precedence)] [N1205]
- [A61K47/48H4H4](#) . . . . . [N: the modifying agent being a heterocyclic compound which being a porphyrine or a porphyrine with an expanded ring system, e.g. texaphyrine]

[N: **Note**

Porphyrins used as photosensitizers in photodynamic therapy: see [A61K41/00W9](#) or [A61K41/00W10](#); Porphyrins used as photosensitizers in photodynamic therapy, the photosensitizer being considered as the therapeutically active part, and modified by another compound, e.g. polymer or an antibody, to be classified in [A61K41/00W9](#) or [A61K41/00W10](#) and according to the [A61K47/48](#) subgroup of the modifying agent; Porphyrins used as fluorescent diagnostic optical agents administered in vivo to be classified in [A61K49/00P4F4C12](#)

]

- [A61K47/48H4K](#) . . . . . [N: the modifying agent being a chelate, i.e. single central atom/ion sequestered by a polydentate ligand, e.g. Gd-DOTA or Zinc-amino acid chelate, or a chelate-forming compound, i.e. chelating group, e.g. DOTA or ethylenediamine, that being covalently/complexed to the pharmacologically- or therapeutically-active agent]

[N: **Note**

Paramagnetic chelates used in MRI and not linked to by further compound, e.g. polymer, peptide, protein, antibody, small molecules like sugars, are only classified in [A61K49/10C](#) and subgroups. Paramagnetic chelates used in MRI and conjugated to another compound, e.g. a polymer, a peptide, a protein, an antibody, a small molecule like a sugar, are classified in [A61K49/06](#) and subgroups, and not [A61K47/48K](#), if said other compound being not used as therapeutic agent, according to the nature of the modifying agent, and completed by [A61K49/08Z](#). Radiolabelled chelates are

classified in [A61K51/04L](#) and its subgroups, and in [A61K51/04Z](#), [A61K51/06Z](#), [A61K51/08Z](#) or [A61K51/10Z](#) if the chelate being linked to a further molecule, e.g. an organic compound, polymer, peptide, protein or polyamino acid, antibody  
]

[A61K47/48H4L](#) . . . . [N: the modifying agent being a phosphate or phosphonate not being a phospholipid, e.g. bone-seeking]

[N: **Note**  
nucleic acid carriers to be classified in [A61K47/48H4P](#)  
]

[A61K47/48H4P](#) . . . . [N: the modifying agent linked to the pharmacologically or therapeutically active agent being a sugar, nucleoside, nucleotide, nucleic acid][N: Note nucleic acids can be coding, non-coding, nucleic acid which being therapeutically-active or not, e.g.: oligonucleotides, DNA, RNA, siRNA, nucleic acid aptamers] [N1205]

[A61K47/48H4Q](#) . . . . [N: the modifying agent being also a pharmacologically or therapeutically active agent, i.e. the entire conjugate being a codrug, i.e. a dimer, oligomer or polymer of pharmacologically or therapeutically active compounds, e.g. a polymer of aspirin][N: Note a sugar, nucleoside, nucleotide, nucleic acid is classified in [A61K47/48H4P](#); a polymer of an active agent is not classified in [A6K47/48K6](#)] [N1205]

[A61K47/48H4Q8](#) . . . . . [N: one of the codrug's components being a vitamin, e.g. niacinamide (vitamin B3), cobalamin (vitamin B12), folate, vitamin A, retinoic acid] [N1205]

[A61K47/48H4Q12](#) . . . . . [N: one of the codrug's components being an antibiotic] [N1205]

[A61K47/48H4R](#) . . . . [N: the modifying agent being a steroid plant sterol, glycyrrhetic acid, enoxolone, bile acid] [N1205]

[N: **Note**  
- Cholesterol only classified here and not in [A61K47/48H4F](#) - Codrugs of pharmacologically active/therapeutically-active steroids are classified in this group and also in [A61K47/48H4Q](#)  
]

[A61K47/48H4S](#) . . . . [N: pretargeting systems involving an organic compound, not being a peptide, protein or antibody, for targeting specific cells]

[N: **Note**  
The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the in vivo targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug linked to a modifying agent M able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to A and M may also be administered, e.g. during a clearing step. Classification being made according to the nature of T in the subgroups of [A61K47/48H4S](#), [A61K47/48R6](#) and [A61K47/48T8](#). In [A61K47/48H4S](#) and its subgroups, T being an organic compound, not being a peptide, protein or antibody. Classification being also made according to the nature of organic compound T in the appropriate [A61K47/48H4](#) subgroup. If T being a peptide, protein or antibody, classification being made in the corresponding [A61K47/48R6](#) or

- [A61K47/48T8](#) pretargeting class]  
]
- [A61K47/48H4S4](#) . . . . . [N: ECTA, enzyme catalyzed therapeutic agent]
- [N: **Note**  
In the definition of [A61K47/48H4S](#), an enzyme being used as group A, and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D, which can be e.g. a prodrug. The drug D being thus released through enzymatic cleavage at particular targeted cells  
]
- [A61K47/48H4S8](#) . . . . . [N: the modifying agent being biotin]
- [N: **Note**  
In the definition of [A61K47/48H4S](#), M and A form a pair of biotin and (strept)avidin, or derivatives of biotin and (strept)avidin  
]
- [A61K47/48H4V](#) . . . . . [N: the modifying agent being a chemiluminescent acceptor]
- [N: **Note**  
A chemical reaction induces the cleavage of the pharmacologically or therapeutically active agent from the carrier while at the same time producing light. If the conjugate is cleaved through activation by light in vivo in order to release the drug, then the classification symbol being [A61K41/00R](#). Dyes/luminescent agents for optical diagnostic imaging [A61K49/00P](#); for photodynamic therapy [A61K41/00W](#)  
]
- [A61K47/48H4W](#) . . . . . [N: Redox delivery systems, e.g. dihydropyridine pyridinium salt redox systems] [N0508]
- [A61K47/48K](#) . . . . . [N: the modifying agent being an organic macromolecular compound, i.e. an oligomeric, polymeric, dendrimeric molecule]
- [N: **Note**  
a peptide, protein, polyamino acid being classified in [A61K47/48R](#) and subgroups; an antibody in [A61K47/48T](#) and subgroups. In case of block copolymers, the different (large) blocks are classified in the appropriate [A61K47/48K](#) or [A61K47/48R](#) subgroups  
]
- [A61K47/48K4](#) . . . . . [N: the organic macromolecular compound has been obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. poly(meth)acrylate, polyacrylamide, polystyrene, polyvinylpyrrolidone, polyvinylalcohol] [N1205]
- [A61K47/48K4D](#) . . . . . [N: the macromolecular compound obtained by reactions only involving carbon-to-carbon unsaturated bonds being an ion exchange resin, e.g. polystyrene sulfonic acid resin] [N1205]
- [A61K47/48K6](#) . . . . . [N: the organic macromolecular compound has been obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. polyureas, polyurethanes] [N1205]
- [A61K47/48K6E](#) . . . . . [N: the macromolecule is/contains a polyester, e.g. PLGA, polylactide-co-glycolide] [N1205]
- [A61K47/48K6F](#) . . . . . [N: the macromolecule is/contains a polyamide, e.g. nylon (polyamino acids A61K47/48R)] [N1205]
- [A61K47/48K6P](#) . . . . . [N: the organic macromolecular compound being a polyoxyalkylene oligomer, polymer, dendrimer, e.g. PEG, PPG, PEO, polyglycerol] [N1202]

- A61K47/48K6Z . . . . [N: the macromolecule contains phosphorus in the main chain, e.g. poly-phosphazene] [N1205]
- A61K47/48K8 . . . . [N: the organic macromolecular compound being a polysaccharide or a derivative, e.g. starch, chitosan, chitin, cellulose, pectin, cyclodextrin with the pharmacologically active agent being covalently linked to the external surface of the ring structure, a bacterial polysaccharide or oligosaccharide antigen, a glycosaminoglycan]
- [N: **Note**  
if cyclodextrin being used to complex the drug, then the appropriate classification being [A61K47/48W18B](#); proteoglycans as modifying agents attached to the pharmacologically or therapeutically active agent are classified in the appropriate [A61K47/48R](#) subgroup  
]
- A61K47/48R . . . [N: the modifying agent being a protein, peptide, polyamino acid]
- [N: **Note**  
antibodies or immunoglobulins are classified in [A61K47/48T](#) subgroups Special physical or galenic forms modified by covalent attachment or complexation of a protein, peptide or polyamino acid, are given the [A61K47/48R](#) class in addition to their corresponding [A61K47/48W](#) subgroup, e.g. a liposome modified on its surface by a peptide being classified in [A61K47/48W6D](#) and [A61K47/48R](#), a PLGA nanoparticle modified on its surface by a peptide being classified in [A61K47/48W8E2K6G](#) and in [A61K47/48R](#) Peptidic linkers used to connect a drug and a modifying agent are classified in [A61K47/48R4](#), the modifying agent being also classified if it being defined  
]
- A61K47/48R2 . . . . [N: drug-peptide, protein or polyamino acid conjugates, i.e. the modifying agent being a protein, peptide, polyamino acid which being linked/complexed to a molecule that being the pharmacologically or therapeutically active agent (peptidic linker are classified in [A61K47/48R4](#))
- [N: **Note**  
The connection of the drug to the peptide, protein or polyamino acid can be by a direct covalent linkage or through a linker Fusion/chimeric proteins genetically produced, e.g. by recombinant DNA technology, are classified in [M07K319/00](#) and subgroups, not in [A61K47/48R2](#) and subgroups. [A61K47/48R2](#) and its subgroups only cover the conjugates wherein a peptide or protein being the pharmacologically or therapeutically active agent has been linked to another peptide or protein being the modifying agent via chemical methods. In that latter example of a chemically-produced peptide or protein-peptide or protein conjugate, what being classified in [A61K47/48R2](#) or in one of its subgroups being the peptide or protein used as modifying agent  
]
- A61K47/48R2B . . . . [N: the peptide, protein or polyamino acid in the drug conjugate being a branched, dendritic or hypercomb peptide] [N1205]
- A61K47/48R2D . . . . [N: the peptide or protein in the drug conjugate being a toxin or a lectin, e.g. clostridial toxins or Pseudomonas exotoxin] [N1205]
- A61K47/48R2F . . . . [N: the peptide or protein in the drug conjugate being a cytokine, e.g. IL2, chemokine, growth factors, interferons being the inactive part of the conjugate]
- [N: **Note**  
ligands of growth factors are not classified here  
]
- A61K47/48R2H . . . . [N: the peptide or protein in the drug conjugate being a receptor as such, e.g. CD4; a cell surface antigen (therefore not a peptide ligand targeting the

antigen); a cell surface determinant, i.e. a part of the surface of a cell]

[N: **Note**

a peptide targeting a receptor being not classified here  
]

- A61K47/48R2L . . . . [N: the peptide or protein in the drug conjugate being an albumin, e.g. HSA, BSA, ovalbumin, or a Keyhole Limpet Hemocyanin (KHL)] [N1205]
- A61K47/48R2N . . . . [N: the peptide or protein in the drug conjugate being a connective tissue peptide, e.g. collagen, fibronectin, gelatin] [N1205]
- A61K47/48R2P . . . . [N: the peptide or protein in the drug conjugate being a transferrin, e.g. a lactoferrin or ovotransferrin] [N1205]
- A61K47/48R2R . . . . [N: the peptide or protein in the drug conjugate being a haemoglobin] [N1205]
- A61K47/48R2T . . . . [N: the peptide or protein in the drug conjugate being a polycationic or polyanionic oligopeptide, polypeptide or polyamino acid, e.g. polylysine, polyarginine, polyglutamic acid, peptide TAT] [N1205]
- A61K47/48R2T2 . . . . . [N: polyanionic oligopeptide, polypeptide or polyamino acid, used to complex nucleic acids being the therapeutic agent] [N1205]
- A61K47/48R2V . . . . [N: the entire peptide or protein drug conjugate elicits an immune response, e.g. conjugate vaccines]

[N: **Note**

Haptens, e.g. conjugate of morphine or nicotine and KLH inducing an immune response being classified in [A61K47/48R2V](#) and [A61K47/48R2L](#)  
]

- A61K47/48R4 . . . . [N: peptidic linker, binder, spacer, e.g. peptidic enzyme-labile linker] [N1205]
- A61K47/48R6 . . . . [N: pretargeting systems involving a peptide or protein (not an antibody [A61K47/48T8](#)) for targeting specific cells]

[N: **Note**

The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the in vivo targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent T able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug D linked to a modifying agent M, able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to both A and M may also be administered (e.g. during a clearing step). Classification being made according to the nature of T in the subgroups of [A61K47/48H4S](#), [A61K47/48R6](#) and [A61K47/48T8](#). In [A61K47/48R6](#) and its subgroups, T being a peptide or protein, not being a antibody. If M being biotin and A being a (strept)avidin or a derivative thereof, then [A61K47/48R6D](#) being used as classification symbol  
]

- A61K47/48R6D . . . . [pretargeting system, clearing therapy or rescue therapy involving biotin-(strept)avidin systems]

[N: **Note**

In this group, M and A in the definition of [A61K47/48R6](#) can form a biotin/(strept)avidin system  
]

- A61K47/48R6F . . . . [N: Enzyme prodrug therapy, e.g. gene directed enzyme drug therapy (GDEPT), VDEPT] [N0103]

**[N: Note**

An enzyme being used as group A in the definition of [A61K47/48H4S](#), and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D, which can be e.g. a prodrug. The drug D being thus released through enzymatic cleavage at particular targeted cells

]

[A61K47/48T](#) . . . [N: the modifying part being an antibody, an immunoglobulin, or a fragment thereof, e.g. a Fc-fragment] [N9804]

[A61K47/48T2](#) . . . [N: drug-antibody or immunoglobulin conjugates defined by the pharmacologically or therapeutically active agent]

**[N: Note**

The modifying part being an antibody or immunoglobulin bearing antigen-binding sites

]

[A61K47/48T2C](#) . . . [N: drug conjugated to an antibody or immunoglobulin, e.g. cisplatin-antibody conjugates]

**[N: Note**

The modifying part being an antibody or immunoglobulin bearing at least one antigen-binding site. In [A61K47/48T2C](#) and its subgroups, classification being made according to the nature of the drug, i.e. the pharmacologically or therapeutically active agent in the antibody conjugate. If the nature of the antibody in a specific conjugate being known, it being indicated with the corresponding [A61K47/48T4](#) subgroup, in addition to the subgroup [A61K47/48T2C](#) characterizing the drug. If the conjugate comprises also a polymer or a polyamino acid, then the class [A61K47/48T4K](#) or [A61K47/48T4K2](#) being also given

]

[A61K47/48T2C2](#) . . . [N: the drug being a vinca alkaloid] [N1205]

[A61K47/48T2C8](#) . . . [N: the drug or compound being a sugar, nucleoside, nucleotide, nucleic acid, e.g. RNA antisense] [N1205]

[A61K47/48T2C8H](#) . . . [N: the drug being an antibiotic, e.g. one of the antitumor antibiotics: anthracyclins, adriamycin, doxorubicin, daunomycin] [N1205]

[A61K47/48T2C12](#) . . . [N: the drug being a protein or peptide, e.g. transferrin or bleomycin] [N1205]

[A61K47/48T2C12K](#) . . . [N: the drug being a peptidic cytokine, e.g. an interleukin or interferon] [N1205]

[A61K47/48T2C12M](#) . . . [N: the drug being an enzyme] [N1205]

[A61K47/48T2C12P](#) . . . [N: the drug being a toxin] [N1205]

[A61K47/48T2C12P2](#) . . . {7 dots} [N: the drug being a plant toxin] [N1205]

[A61K47/48T2C12P2D](#) . . . {8 dots} [N: the drug being a plant heterodimeric toxin; chains A or B containing toxins, e.g. abrin, modeccin] [N1205]

[A61K47/48T2C12P2D2](#) . . . {9 dots} [N: the drug being ricin (double chain)] [N1205]

[A61K47/48T2C12P2F](#) . . . {8 dots} [N: the drug being a ribosomal inhibitory protein, (RIP-I or RIP-II), e.g. Pap, gelonin, dianthin] [N1205]

[A61K47/48T2C12P2F2](#) . . . {9 dots} [N: the drug being ricin A] [N1205]

[A61K47/48T2C12P4](#) . . . {7 dots} [N: the drug being a bacterial toxin, e.g. diphtheria toxin, Pseudomonas exotoxin A] [N1205]

A61K47/48T2C12P6	. . . . .	{7 dots} [N: the drug being a fungal toxin, e.g. alpha sarcine, mitogillin, zinniol, restrictocin] [N1205]
A61K47/48T2C12P8	. . . . .	{7 dots} [N: the drug being a viral toxin] [N1205]
A61K47/48T4	. . .	[N: the modifying agent being a well defined antibody or immunoglobulin bearing at least one antigen-binding site]
		[N: <b>Note</b> According to the nature of the antibody, the appropriate <a href="#">A61K47/48T4B</a> subgroup being given. If the pharmacologically or therapeutically active agent in the antibody conjugate being known, the appropriate <a href="#">A61K47/48T2C</a> subgroup being also given ]
A61K47/48T4B	. . . . .	[N: not used; see subgroups] [N9804]
A61K47/48T4B10	. . . . .	[N: the antibody being against material from viruses] [N1205]
A61K47/48T4B10D	. . . . .	[N: the antibody being targeting a RNA virus] [N1205]
A61K47/48T4B18	. . . . .	[N: the antibody being targeting a material from animals or humans.] [N1205]
A61K47/48T4B24	. . . . .	[N: the antibody being targeting a cytokine, e.g. growth factors, VEGF, TNF, a lymphokine or an interferon] [N1205]
A61K47/48T4B26	. . . . .	[N: the antibody being targeting an hormone, or an hormone-releasing or -inhibiting factor] [N1205]
A61K47/48T4B28	. . . . .	[N: the antibody being targeting a receptor, a cell surface antigen, a cell surface determinant] [N1205]
A61K47/48T4B30	. . . . .	[N: the antibody being targeting a determinant of a tumour cell] [N1205]
A61K47/48T4B30A	. . . . .	[N: the tumour determinant being carcino-embryonic antigen] [N1205]
A61K47/48T4B30B	. . . . .	[N: the tumour determinant being from breast cancer cell] [N1205]
A61K47/48T4B30D	. . . . .	[N: the tumour determinant being from lung cancer cell] [N1205]
A61K47/48T4B30F	. . . . .	[N: the tumour determinant being from liver or pancreas cancer cell] [N1205]
A61K47/48T4B30H	. . . . .	[N: the tumour determinant being from kidney or bladder cancer cell] [N1205]
A61K47/48T4B30K	. . . . .	[N: the tumour determinant being from stomach or intestines cancer cell] [N1205]
A61K47/48T4B30L	. . . . .	[N: the tumour determinant being from skin, nerves or brain cancer cell] [N1205]
A61K47/48T4B30M	. . . . .	[N: the tumour determinant being from a cell of a blood cancer] [N1205]
A61K47/48T4B30P	. . . . .	[N: the tumour determinant being from a cell of the reproductive system: ovaria, uterus, testes, prostate] [N1205]
A61K47/48T4B40	. . . . .	[N: the antibody being targeting an enzyme] [N1205]
A61K47/48T4B42	. . . . .	[N: the antibody being targeting an immunoglobulin, being an anti-idiotypic antibody] [N1205]
A61K47/48T4B46	. . . . .	[N: the antibody being a hybrid immunoglobulin] [N1205]
A61K47/48T4B46B	. . . . .	[N: the antibody being an immunoglobulin containing regions, domains, residues from different species] [N1205]
A61K47/48T4B46D	. . . . .	[N: the immunoglobulin has two or more different antigen-binding sites, e.g. bispecific or multispecific immunoglobulin] [N1205]
A61K47/48T4F	. . . . .	[N: cluster-antibody conjugates, i.e. the modifying agent consists of a plurality of antibodies that are covalently linked to each other, or of different

- antigen-binding fragments fragments that are covalently linked to each other] [N1205]
- A61K47/48T4K . . . . [N: polymer-drug antibody conjugates, e.g. mitomycin-dextran-Ab; DNA-polylysine-antibody complex or conjugate, used for therapy] [N1205]
- A61K47/48T4K2 . . . . . [N: the conjugate or the polymer being a starburst, a dendrimer, a cascade] [N1205]
- A61K47/48T4M . . . . . [N: antibody-chelate conjugate wherein the chelate being used for therapeutic purposes (when radioabeled and used in radiodiagnosis or radiotherapy A61K51/10Z and the corresponding A61K51/10B subgroup; antibody-chelate used for MRI A61K49/14)] [N1205]
- A61K47/48T6 . . . . [N: conjugates wherein the antibody being the modifying agent and wherein the linker, binder, spacer confers particular properties to the conjugate, e.g. peptidic enzyme-labile linker or acid-labile linker giving rise to an acid-labile immunoconjugate wherein the drug may be released from its antibody conjugated part in an acidic, e.g. tumoural, environment] [N1205]
- A61K47/48T8 . . . . [N: pretargeting systems involving an antibody for targeting specific cells]

[N: **Note**

The concept of "pre-targeting" covers the administration of the modifying agent (which being an agent able to target specific cells in the body), and of the pharmacologically or therapeutically active agent (drug D) in several steps, their "binding" occurring at the in vivo targeted site. It involves administration in at least two steps, for example: (i) a conjugate T-A corresponding to a targeting agent able to target specific cells or receptors in the body (T) linked to a compound A, and (ii) a conjugate D-M corresponding to the drug linked to a modifying agent M, able to target the compound A. The sequence involves e.g. the administration of T-A and then D-M. Between step (i) and step (ii), a further compound able to bind to A and M may also be administered (e.g. during a clearing step). Classification being made according to the nature of T in the subgroups of [A61K47/48G4S](#), [A61K47/48R6](#) and [A61K47/48T8](#). In [A61K47/48T8](#) and its subgroups, T being an antibody. Classification being also made according to the nature of the antibody in the appropriate [A61K47/48T4B](#) subgroup. If M and A form a pair of biotin and (strept)avidin (or derivatives of biotin and (strept)avidin), then [A61K47/48T8M4](#) being used as classification symbol

]

- A61K47/48T8B . . . . . [N: clearing therapy or enhanced clearance, i.e. wherein an antibody clearing agent being used in addition to T-A and D-M according to the definitions in [A61K47/48T8](#)] [N1205]
- A61K47/48T8F . . . . . [N: rescue therapy; agonist-antagonist; antidote; targeted rescue or protection e.g. folic acid-folinic acid, conjugated to antibodies both or only one] [N1205]
- A61K47/48T8M . . . . . [N: two or three steps pretargeting systems, wherein an antibody conjugate being used in at least one of the steps; ligand-antiligand therapy] [N1205]
- A61K47/48T8M4 . . . . . [N: avidin-biotin system wherein at least one avidin- or biotin-conjugated antibody being used in a two- or three-steps pretargeting system]

[N: **Note**

This subgroup covers the case wherein M and A in the definition of [A61K47/48T8](#) form a pair of biotin and (strept)avidin, or derivatives of biotin and (strept)avidin

]

- A61K47/48T8P . . . . . [N: ADEPT, i.e. Antibody Directed Enzyme Prodrug Therapy] [N9804]

[N: **Note**

An enzyme being used as group A according to the definition in [A61K47/48T8](#) and being first targeted to specific cells via administration of the conjugate T-A. Then, the conjugate M-D which being a substrate for A being administered. The enzyme A being able to cleave the conjugate M-D (which can be e.g. a prodrug). The drug D being thus released through enzymatic cleavage at particular targeted cells  
]

A61K47/48W . . . [N: the conjugate being characterized by a special physical or galenical form]

[N: **Note**

The conjugates in the [A61K47/48W](#) subgroups correspond (i) either to a pharmacologically or therapeutically active agent complexed/covalently linked to the special physical or galenical form, e.g. on the surface of a polymeric nanoparticle or liposome, or to polymeric chains in the matrix of a polymeric gel, (ii) or to a special physical or galenical form encapsulating the pharmacologically or therapeutically active agent and modified on its surface or matrix by a modifying agent. In case (i), classification being made according to the nature of the special physical or galenical form in the appropriate [A61K47/48W](#) subgroup and may be completed by the appropriate [A61K47/48](#) subgroup defining the compound to which the pharmacologically or therapeutically active agent being linked, e.g. [A61K47/48H4F4](#) in case of a drug linked to a phospholipid and inserted in the bilayer surface of a liposome. In case (ii), classification being made according to the nature of the modifying agent. Physical or galenical forms not modified by a modifying agent and/or wherein the pharmacologically or therapeutically active agent being not complexed/covalently linked to said forms, are not classified in [A61K47/48](#), but in [A61K9/00](#) and its subgroups  
]

A61K47/48W2 . . . [N: forms of ingredients not provided for by groups [A61K47/48W4](#) to [A61K47/48W26](#), e.g. cells, cell fragments, viruses, ghosts, red blood cells, viral vectors having the pharmacologically or therapeutically active agent complexed or covalently linked to, or being themselves modified by complexation or covalent linkage by a modifying agent]

[N: **Note**

Simple encapsulation in cells being isclassified in [A61K9/50H8B](#); simple encapsulation in a virus capsid is classified in [A61K9/51H8B](#)  
]

A61K47/48W4 . . . [N: the form being semi-solid, an ointment, a gel, a hydrogel, a solidifying gel] [N1205]

A61K47/48W6 . . . [N: the form being a colloid, emulsion, i.e. having at least a dispersed/continuous oil phase and a dispersed/continuous aqueous phase, dispersion or suspension] [N1205]

A61K47/48W6B . . . [N: the form being a micro-emulsion, nano-emulsion or micelle (Simple encapsulation of a drug in micelle: [A61K9/107D](#))]

[N: **Note**

Micro-emulsion means that the dispersed phase being in the form of globules having a diameter above or equal to 1 micrometer. Nano-emulsion means that the dispersed phase being in the form of globules having a diameter below 1 micrometer. Micelles comprise a monolayer of surfactant molecules that are aggregated head-to-head and tail-to-tail, thus forming a small spherical particle; micelles can be normal, i.e. the surfactant heads are hydrophilic, or inverse. Micelles modified by a polymer because they incorporate a polymer-lipid conjugate are only classified in [A61K47/48W6B](#) if the polymer modifying the lipid being unusual. Micelles which are pegylated because they incorporate a pegylated lipid are not classified in

[A61K47/48W6B](#) but in [A61K9/107D](#)

]

[A61K47/48W6B2](#) . . . . . [N: micelles formed by phospholipids] [N1205]

[A61K47/48W6D](#) . . . . . [N: the form being a liposome, i.e. a bilayered vesicle, having its surface modified by covalent attachment or complexation of the pharmacologically or therapeutically active agent and/or modifying agent. (Simple encapsulation of a drug which being not functionalised on its surface by a modifying agent: see [A61K9/127](#))]

[N: **Note**

Liposomes modified by a polymer because they incorporate a polymer-lipid conjugate are only additionally classified in [A61K47/48W6D](#) if the polymer modifying the lipid being unusual. Liposomes which are pegylated because they incorporate a pegylated lipid are not classified in [A61K47/48W6D](#) but in [A61K9/127B](#). When the surface of the liposome being functionalised by a modifying agent, classification being also made according to the nature of this modifying agent, e.g. a liposome modified on its surface by a peptide being classified in [A61K47/48W6D](#) and [A61K47/48R](#). In case of antibodies, see [A61K47/48W6D2](#). Liposomes wherein the pharmacologically or therapeutically active agent being linked to a phospholipid of the liposomal surface are classified in [A61K47/48W6D](#) and [A61K47/48G4F4](#)]

]

[A61K47/48W6D2](#) . . . . . [N: the form being a liposome which being modified on its surface by an antibody]

[N: **Note**

Classification being also made according to the nature of the antibody in the appropriate [A61K47/48T4B](#) subgroup

]

[A61K47/48W6D4](#) . . . . . [N: the form being a polymersome, i.e. a liposome with polymerisable or polymerized bilayer-forming substances][N: Note Liposomes comprising polymers grafted on their surface are not classified in [A61K47/48W6D4](#), but in [A61K47/48W6D](#) if the polymer being unusual, or in [A61K9/127B](#)] [N1205]

[A61K47/48W6G](#) . . . . . [N: the form being a lipoprotein vesicle, e.g. HDL and LDL proteins] [N1205]

[A61K47/48W6H](#) . . . . . [N: the form being a ribbon, tubule cochleate] [N9908]

[A61K47/48W8](#) . . . . . [N: the form being a particulate, powder, adsorbate, bead, sphere] [N9908]

[A61K47/48W8B](#) . . . . . [N: the form being an inorganic particle, e.g. a ceramic particle, silica particle, ferrite, synsorb]

[N: **Note**

When the inorganic particle being a magnetic particle and being guided from outside the body with the means of a magnetic field, add the [A61K41/00](#) classification symbol

]

[A61K47/48W8D](#) . . . . . [N: the form being a micro- or nano-capsule or a micro/nano-bubble, i.e. a hollow or gas micro- or nano-particle or sphere, a gas-filled micro- or nano-particle for use in therapy (Micro- or nano-bubbles used only for ultrasound imaging are classified in [A61K49/22P4](#) or [A61K49/22P8](#) only) ]

[N: **Note**

Pharmacologically or therapeutically active agents released from a micro- or nano-capsule by acoustic/ultrasound activation are also classified in [A61K41/00M](#) and [A61K9/00L8](#)

]

A61K47/48W8E	. . . . .	[N: the form being a solid microparticle having no hollow or gas-filled core][N: Note its size or diameter being higher or equal to 1 micrometer] [N1205]
A61K47/48W8E2	. . . . .	[N: the form being a nanoparticle, e.g. an immuno-nanoparticle][N: Note its size or diameter being smaller than 1 micrometer. Classification being also made according to the nature of the antibody with the appropriate A61K47/48T4B subgroup] [N1205]
A61K47/48W8E2K	. . . . .	[N: the material constituting the nanoparticle being a polymer][N: Note The subgroups A61K47/48K are not additionally used] [N1205]
A61K47/48W8E2K4	. . . . .	{7 dots} [N: the material constituting the nanoparticle being a polymer obtained by reactions only involving carbon to carbon, e.g. poly(meth)acrylate, polystyrene, polyvinylpyrrolidone, polyvinylalcohol] [N1205]
A61K47/48W8E2K6	. . . . .	{7 dots} [N: the material constituting the nanoparticle being a polymer obtained otherwise than by reactions involving carbon to carbon unsaturated bonds, e.g. polyesters, polyamides, polyglycerol] [N1205] [C1208]
A61K47/48W8E2K6G	. . . . .	{8 dots} [N: the polymer being PLGA, PLA or polyglycolic acid] [N1205] [C1208]
A61K47/48W8E2K8	. . . . .	{7 dots} [N: the polymer being a polysaccharide, e.g. starch, chitosan, chitin, cellulose, pectin] [N1205]
A61K47/48W8F	. . . . .	[N: the form being a granulate or an agglomerate] [N1205]
A61K47/48W10	. . . . .	[N: the form being a pill, tablet, lozenge, capsule] [N1205]
A61K47/48W14	. . . . .	[N: Microcapsules] [N9908]
A61K47/48W14B	. . . . .	[N: Nanocapsules; Nanoparticles, e.g. immunonanoparticles] [N9908]
A61K47/48W18	. . . . .	[N: the conjugate being in the form of a host-guest, i.e. being an inclusion complex, e.g. clathrate, cavitate, fullerene] [N1205]
A61K47/48W18B	. . . . .	[N: inclusion being performed with a cyclodextrin (cyclodextrins used as simple excipients A61K47/40)] [N1205]
A61K47/48W22	. . . . .	[N: the form being a fibre, textile, slabb, sheet] [N1205]
A61K47/48W24	. . . . .	[N: the form being a plaster, bandage, dressing, patch] [N1205]
A61K47/48W26	. . . . .	[N: the form being a device, kit .e.g. stent, microdevice] [N1205]

**A61K48/00****Medicinal preparations containing genetic material which is inserted into cells of the living body to treat genetic diseases; Gene therapy**[N: **Notes** [M1204]]

1. In this group the following expression is used with the meaning indicated:
  - o "gene therapy" means in vivo delivery of nucleic acids encoding for peptides by administration of these nucleic acids or by implanting cells transfected ex vivo with the nucleic acids encoding for the peptides.
2. Documents relating to new nucleic acids encoding for peptides, e.g. enzymes, and their use in gene therapy are classified in subclass C07K or in group [C12N9/00](#) according to the encoded peptides, with the appropriate indexing codes relating to gene therapy.
3. Documents relating to new vectors and their use in gene therapy are classified in groups [C12N15/85-C12N15/90](#) according to the vectors, and the appropriate indexing codes, including those relating to gene therapy.

4. Documents describing cells genetically modified to express a gene of interest and their use in gene therapy are classified in [C12N5/06](#) according to the cells, with the appropriate indexing codes relating to gene therapy.
5. Documents relating to new medical uses of peptides per se, which peptides may be encoded by nucleic acids, and wherein the nucleic acids may be administered directly or by implanting cells transfected ex vivo with the nucleic acids, are classified in the appropriate groups [A61K38/00](#) or [A61K39/00](#) according to the encoded peptides, with the indexing codes relating, inter alia, to gene therapy.

]

- [A61K48/00B](#) . [N: characterised by an aspect of the `non-active` part of the composition delivered, e.g. wherein such `non-active` part is not delivered simultaneously with the `active` part of the composition] [N0212]
- [A61K48/00B2](#) . . [N: wherein the nucleic acid is delivered as a `naked` nucleic acid, i.e. not combined with an entity such as a cationic lipid] [N0212]
- [A61K48/00B4](#) . . [N: wherein the non-active part clearly interacts with the delivered nucleic acid] [N0212]
- [A61K48/00B4A](#) . . . [N: the non-active part being non-polymeric] [N0212]
- [A61K48/00B4B](#) . . . [N: the non-active part being polymeric] [N0212]
- [A61K48/00D](#) . [N: characterised by an aspect of the `active` part of the composition delivered, i.e. the nucleic acid delivered] [N0212]
- [A61K48/00D2](#) . . [N: Nucleic acids adapted for tissue specific expression, e.g. having tissue specific promoters as part of a construct] [N0212]
- [A61K48/00D4](#) . . [N: Manipulation of the nucleic acid to modify its expression pattern, e.g. enhance its duration of expression, achieved by the presence of particular introns in the delivered nucleic acid] [N0212]
- [A61K48/00F](#) . [N: characterised by an aspect of the delivery route, e.g. oral, subcutaneous] [N0212]
- [A61K48/00H](#) . [N: characterised by an aspect of the administration regime] [N0212]
- [A61K48/00J](#) . [N: Purification or manufacturing processes for gene therapy compositions] [N0212]
- [A61K49/00](#)**      **Preparations for testing in vivo**
- [A61K49/00F](#) . [N: General or multifunctional contrast agents, e.g. chelated agents] [N0203]
- [A61K49/00H](#) . [N: Screening or testing of compounds for diagnosis of disorders, assessment of conditions, e.g. renal clearance, gastric emptying, testing for diabetes, allergy, rheuma, pancreas functions] [N0203]
- [A61K49/00H4](#) . . [N: Skin tests, e.g. intradermal testing, test strips, delayed hypersensitivity] [N0203]
- [A61K49/00H6](#) . . [N: Screening agents using (non-human) animal models or transgenic animal models or chimeric hosts, e.g. Alzheimer disease animal model, transgenic model for heart failure] [N0203]
- [A61K49/00P](#) . [N: Preparation for luminescence or biological staining] [N9410]

- A61K49/00P4 . . . [N: Luminescence] [N9701]
- A61K49/00P4C . . . [N: Phosphorescence] [N9701]
- A61K49/00P4F . . . [N: Fluorescence in vivo] [N9701]
- A61K49/00P4F4 . . . . [N: characterised by the fluorescent group] [N0911]
- A61K49/00P4F4C . . . . . [N: the fluorescent group being a small organic molecule (oligomeric, polymeric, dendritic molecules: [A61K49/00P4F4](#))] [N0911] [C1206]
- [N: **Note** [N1206]  
if this fluorescent group is complexed or covalently linked to a carrier, classification is also made according to the nature of the carrier in the appropriate [A61K49/00P4F8](#) subgroup  
]
- A61K49/00P4F4C2 . . . . . [N: Di-or triarylmethane dye (xanthene dyes [A61K49/00P4F4C16](#))] [N0911] [C1206]
- A61K49/00P4F4C4 . . . . . [N: Acridine dyes] [N0911]
- A61K49/00P4F4C6 . . . . . [N: Oxazine dyes] [N0911]
- A61K49/00P4F4C8 . . . . . [N: Thiazine dyes] [N0911]
- A61K49/00P4F4C10 . . . . . [N: Methine dyes, e.g. cyanine dyes] [N0911]
- A61K49/00P4F4C10C . . . . . {7 dots} [N: Indocyanine green, i.e. ICG, cardiogreen] [N0911] [C1206]
- A61K49/00P4F4C12 . . . . . [N: Porphyrins (used in photodynamic therapy [A61K41/00W9](#) or [A61K41/00W10](#); used as targeting group or modifying agent for targeting a therapeutic compound [A61K47/48H4H4](#))] [N0911] [C1206]
- A61K49/00P4F4C14 . . . . . [N: Coumarin dyes] [N0911] [C1206]
- A61K49/00P4F4C16 . . . . . [N: Xanthene dyes, used in vivo, e.g. administered to a mice, e.g. rhodamines, rose Bengal (in vivo G01N)] [N0911] [C1206]
- A61K49/00P4F4C16F . . . . . {7 dots} [N: Fluorescein, used in vivo] [N0911] [C1206]
- A61K49/00P4F4P . . . . . [N: the fluorescent agent being a peptide or protein used for imaging or diagnosis in vivo] [N0911] [C1206]
- A61K49/00P4F4P4 . . . . . [N: Green fluorescent protein (GFP)] [N0911]
- A61K49/00P4F8 . . . . . [N: characterised by the carrier molecule carrying the fluorescent agent] [N0911] [C1207]
- [N: **Notes**  
Classification is also made according to the nature of the fluorescent group in the appropriate subgroup of [A61K49/00P4F4](#)  
]
- A61K49/00P4F8H . . . . . [N: Small organic molecules (oligomers, polymers, dendrimers [A61K49/00P4F8K](#))] [N0911] [C1206]
- A61K49/00P4F8K . . . . . [N: Macromolecular compounds, i.e. oligomers, polymers, dendrimers] [N0911] [C1206]
- A61K49/00P4F8R . . . . . [N: Peptides, proteins, polyamino acids] [N0911] [C1206]
- A61K49/00P4F8T . . . . . [N: Antibodies] [N0911]
- A61K49/00P8 . . . [N: Biological staining of tissues in vivo, e.g. methylene blue or toluidine blue O administered in the buccal area to detect epithelial cancer cells, dyes used for delineating tissues during surgery] [N9701] [C1207]
- [N: **Notes**  
If the dye used for staining is fluorescent, classification is also given for the appropriate subgroup of [A61K49/00P4F4](#)  
]

- A61K49/00P12 . . . [N: characterised by a special physical or galenical form, e.g. emulsions, microspheres] [N9701] [C1206]
- [N: **Note** [C1206]  
Note Classification is also made according to the nature of the luminescent or fluorescent agent and/or the carrier carrying the fluorescent agent  
]
- A61K49/00P12B . . . [N: the luminescent/fluorescent agent having itself a special physical form, e.g. gold nanoparticle] [N1206]
- A61K49/00P12B2 . . . [N: quantum dots, fluorescent nanocrystals] [N1206]
- [N: **Notes**  
Quantum dots modified on their surface by an antibody are also classified in [A61K49/00P4F8T](#))  
]
- A61K49/00P12C . . . [N: the agent being in a particular physical galenical form] [N1206]
- [N: **Notes**  
If the physical or galenical form containing a fluorescent agent is modified by a particular agent, classification is also made according to the nature of this agent in the appropriate [A61K49/00P4F8](#) subgroup  
]
- A61K49/00P12C2 . . . [N: solution, solute] [N1206]
- A61K49/00P12C4 . . . [N: semi-solid, gel, hydrogel, ointment] [N1206]
- A61K49/00P12C8 . . . [N: dispersion, suspension, e.g. particles in a liquid, colloid, emulsion] [N1206]
- A61K49/00P12C8B . . . [N: micro-emulsion, nano-emulsion] [N1206]
- [N: **Notes**  
Micro-emulsion means that the dispersed phase is in the form of globules having a diameter above or equal to 1 micrometer. Nano-emulsion means that the dispersed phase is in the form of globules having a diameter below 1 micrometer  
]
- A61K49/00P12C8D . . . [N: lipoprotein vesicle, e.g. HDL or LDL proteins] [N1206]
- A61K49/00P12C8E . . . [N: micelle, e.g. phospholipidic micelle and polymeric micelle] [N1206]
- [N: **Notes**  
Micelles comprise a monolayer of surfactant molecules that are aggregated head-to-head and tail-to-tail, thus forming a small spherical particle; micelles can be normal, i.e., the surfactant heads are hydrophilic, or inverse  
]
- A61K49/00P12C8F . . . [N: liposome, i.e. bilayered vesicular structure] [N1206]
- [N: **Note** [N1206]  
When the surface of the liposome encapsulating a fluorescent agent and used in vivo is functionalised by a modifying agent, classification is also made according to the nature of this modifying agent: e.g. a liposome modified on its surface by a peptide is classified in [A61K49/00P12C8F](#) and [A61K49/00P4F8R](#). Liposomes encapsulating a fluorescent agent, used in vivo and modified on their surface by a polymer because they incorporate a polymer-lipid conjugate, are only additionally classified in [A61K49/00P4F8K](#) if the polymer modifying the lipid is unusual.

- Liposomes encapsulating a fluorescent agent which are pegylated because they incorporate a pegylated lipid are only classified in [A61K49/00P12C8F](#), not in [A61K49/00P4F8K](#)  
]
- [A61K49/00P12C8F2](#) . . . . . [N: Polymersome, i.e. liposome with polymerisable or polymerized bilayered-forming substances] [N1206]
- [A61K49/00P12C10](#) . . . . . [N: Particulate, powder, adsorbate, bead, sphere] [N1206]
- [A61K49/00P12C10C](#) . . . . . [N: Microparticle, microcapsule, microbubble, microsphere, microbead, i.e. having a size or diameter higher or equal to 1 micrometer] [N1206]
- [N: **Notes**  
When the surface of the microparticle encapsulating a fluorescent agent and used in vivo is functionalised by a modifying agent, classification is also made according to the nature of this modifying agent, e.g. a microparticle modified on its surface by a peptide is classified in [A61K49/00P12C10C](#) and [A61K49/00P4F8R](#)  
]
- [A61K49/00P12C10C2](#). . . . . [N: Nanoparticle, nanocapsule, nanobubble, nanosphere, nanobead, i.e. having a size or diameter smaller than 1 micrometer, e.g. polymeric nanoparticle] [N1206]
- [A61K49/00P12C10C2B](#) . . . . . {7 dots} [N: Nanotubes] [N1206]
- [A61K49/00P12C12](#) . . . . . [N: Cells, viruses, ghosts, red blood cells, viral vectors, used for imaging or diagnosis in vivo] [N1206]
- [A61K49/04](#) . X-ray contrast preparations
- [N: **Note**  
In the preparation of new organic compounds and their use in X-ray contrast preparations, classification is only made in the relevant subclasses [C07C](#) to [C07J](#) according to the type of compound  
]
- [A61K49/04B](#) . . . [N: containing barium sulfate] [N0011]
- [A61K49/04F](#) . . . [N: Physical forms of mixtures of two different X-ray contrast-enhancing agents, containing at least one X-ray contrast-enhancing agent which is not a halogenated organic compound] [N0011] [C1207]
- [A61K49/04F8](#) . . . [N: Particles, beads, capsules or spheres] [N0011] [C1207]
- [A61K49/04F8M](#) . . . . . [N: Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer] [N0011] [C1207]
- [A61K49/04F8N](#) . . . . . [N: Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer] [N0011] [C1207]
- [A61K49/04F8N2](#) . . . . . [N: Surface-modified nanoparticles, e.g. immuno-nanoparticles] [N0011] [C1207]
- [A61K49/04H](#) . . . [N: containing an organic halogenated X-ray contrast-enhancing agent][C1207]
- [A61K49/04H2](#) . . . [N: Organic X-ray contrast-enhancing agent comprising an iodinated group or an iodine atom, e.g. iopamidol] [N0011] [C1207]
- [A61K49/04H4](#) . . . [N: Polymeric X-ray contrast-enhancing agent comprising a halogenated group] [N0011] [C1207]
- [A61K49/04H8](#) . . . [N: Physical forms of mixtures of two different X-ray contrast-enhancing agents, containing at least one X-ray contrast-enhancing agent which is a halogenated organic compound] [N0011] [C1207]
- [A61K49/04H8B](#) . . . . . [N: Solutions, e.g. for injection] [N0011]

- A61K49/04H8D . . . . [N: Semi-solid forms, ointments, gels, hydrogels] [N0011] [C1207]
- A61K49/04H8F . . . . [N: Dispersions, colloids, emulsions or suspensions] [N0011] [C1207]
- A61K49/04H8F2 . . . . . [N: Liposomes, lipoprotein vesicles, e.g. HDL or LDL lipoproteins, phospholipidic or polymeric micelles] [N0011] [C1207]
- A61K49/04H8F6 . . . . . [N: Perflubron, i.e. perfluorooctylbromide, C8F17Br emulsions] [N0011] [C1207]
- A61K49/04H8P . . . . . [N: Particles, beads, capsules, spheres] [N0011] [C1207]
- A61K49/04H8P2 . . . . . [N: Microparticles, microbeads, microcapsules, microspheres, i.e. having a size or diameter higher or equal to 1 micrometer] [N0011] [C1207]
- A61K49/04H8P4 . . . . . [N: Nanoparticles, nanobeads, nanospheres, nanocapsules, i.e. having a size or diameter smaller than 1 micrometer] [N0011] [C1207]
- A61K49/04H8P4S . . . . . [N: Surface-modified nanoparticles, e.g. immune-nanoparticles] [N0011] [C1207]
- A61K49/04H8T . . . . . [N: intended for oral administration] [N0011]
  
- A61K49/06 . . . . . Nuclear magnetic resonance (NMR) contrast preparations; Magnetic resonance imaging (MRI) contrast preparations [N0201]
  - [N: **Notes** [C1207]  
characterised only by the (inorganic) MRI-active nucleus, e.g. 129Xe ]
- A61K49/08 . . . . . characterised by the carrier [N0201]
  - [N: **Notes** [C1207]  
characterised by the carrier carrying the MRI-active nucleus, e.g. inorganic carrier ]
- A61K49/08Z . . . . . [N: conjugated systems] [N0201] [C1207]
  - [N: **Notes**  
The MRI-active nucleus being complexed to a complex-forming compound (e.g. chelating group) or being covalently linked to a molecule, which being further covalently linked or conjugated to a carrier, e.g. polymer. Classification being also made according to the nature of the carrier, e.g. [Gd3+]DOTA-polymer to be classified in [A61K49/08Z](#) and in the appropriate [A61K49/12](#) adequate subgroup ]
- A61K49/10 . . . . . Organic compounds [N0201] [C1207]
  - [N: **Notes**  
the carrier being an organic compound, e.g. 13C-labelled molecule or perfluorinated alkane, used as MRI in vivo probe, or a small organic molecule, e.g. a sugar, linked to a Gd-chelate ]
- A61K49/10C . . . . . [N: the carrier being a complex-forming compound able to form MRI-active complexes with paramagnetic metals [N1012] [C1207]
  - [N: **Notes**  
In the [A61K49/10C](#) subgroups, the MRI-active nucleus being complexed to a complex-forming compound, e.g. chelating group. Classification being made according to the nature of this complex-forming agent, if it being either an uncommon or new complexing agent (not the usual DTPA, DOTA, DOTP, etc...groups) that forms the real contribution to the claimed MRI invention, or if it being not conjugated to any further molecule, e.g. which being not

- conjugated to a polymer, peptide, protein or antibody. In that latter case, the MRI probe being e.g. a paramagnetic metal chelate]  
]
- A61K49/10C4 . . . . . [N: the complex-forming compound being acyclic, e.g. DTPA] [N1012] [C1207]
- A61K49/10C4G . . . . . [N: the metal complex being Gd-DTPA] [N1012] [C1207]
- A61K49/10C8 . . . . . [N: the complex-forming compound being cyclic, e.g. DOTA] [N1012]
- A61K49/10C8G . . . . . [N: the metal complex being Gd-DOTA] [N1012] [C1207]
- A61K49/12 . . . . . Macromolecular compounds [N0201] [C1207]
- [N: **Notes**  
the carrier being an organic macromolecular compound, i.e. an oligomeric, polymeric, dendrimeric molecule (not being a peptide, protein, polyamino acid (see [A61K49/00](#) or [A61K14/00](#)) or an antibody (see [A61K49/00](#) or [A61K16/00](#))  
]
- A61K49/12D . . . . . [N: dimers of complexes or complex-forming compounds] [N1012]
- A61K49/12H . . . . . [N: dendrimers, dendrons, hyperbranched compounds] [N1012] [C1207]
- [N: **Notes**  
Said compounds are either complexes or complex-forming compounds, or they form a backbone to which MRI active nuclei are complexed or covalently linked through chelating groups. In that latter case, the subgroup [A61K49/08Z](#) being also given. Dendrimeric, dendronised or hyperbranched polyamino acids used as carriers are also classified in [A61K49/14T](#)  
]
- A61K49/12P . . . . . [N: Linear polymers, e.g. dextran, inulin, PEG] [N1012]
- A61K49/12P4 . . . . . [N: comprising multiple complex or complex-forming groups, being either part of the linear polymeric backbone or being pending groups covalently linked to the linear polymeric backbone] [N1012] [C1207]
- [N: **Notes**  
In that latter case, classification is also made in [A61K49/08Z](#)  
]
- A61K49/14 . . . . . Peptides, e.g. proteins [N0201] [C1207]
- [N: **Notes**  
the carrier being a peptide (polyamino acid, [A61K49/14T](#)) or protein (not an antibody, see [A61K49/16](#)). If the MRI-active nucleus being linked to the peptide or protein or polyamino acid via a complexing or chelating group, the subgroup [A61K49/08Z](#) should also be given. If the peptide or protein or polyamino acid being a dendrimer, a dendron, or hyperbranched, then the [A61K49/12H](#) being also given  
]
- A61K49/14L . . . . . [N: the protein being an albumin, e.g. HSA, BSA, ovalbumin] [N1012] [C1207]
- A61K49/14T . . . . . [N: the peptide being a polyamino acid, e.g. poly-lysine] [N1012]
- A61K49/16 . . . . . Antibodies; Immunoglobulins; Fragments thereof [N0201] [C1207]
- [N: **Notes**  
the protein being an antibody, an immunoglobulin or a fragment thereof. If

- the MRI-active nucleus being linked to the antibody via a complexing or chelating group, the subgroup [A61K49/08Z](#) should also be given ]
- A61K49/18 . . characterised by a special physical form, e.g. emulsions, microcapsules, liposomes [N0201] [C1207]
- [N: **Notes**  
Classification being also made according to the molecule complexing or bearing the MRI-active nucleus ]
- A61K49/18F . . . [N: Semi-solid preparations, e.g. ointments, gels, hydrogels] [N0201] [C1207]
- A61K49/18K . . . [N: Suspensions, emulsions, colloids, dispersions] [N0201] [C1207]
- A61K49/18K4 . . . . [N: Micelles, e.g. phospholipidic or polymeric micelles] [N0201] [C1207]
- A61K49/18K8 . . . . [N: liposomes, polymersomes, e.g. immunoliposomes] [N0201] [C1207]
- [N: **Notes**  
If the paramagnetic metal complexes are covalently linked to the bilayered membrane, then the [A61K49/08Z](#) subgroup being also given. Liposomes modified on their external surface by a targeting agent, e.g. an antibody are classified in [A61K49/18K8](#) without further indication for the targeting agent ]
- A61K49/18K12 . . . . [N: compo-inhalant, e.g. breath tests] [N0201]
- A61K49/18R . . . [N: particles, e.g. uncoated or non-functionalised microparticles or nanoparticles] [N1202] [C1207]
- [N: **Notes**  
For nanoparticles, i.e. having a size or diameter smaller than 1 micrometer, the subgroups [B82Y5/00](#) and [B82Y15/00](#) are also given ]
- A61K49/18R2 . . . . [N: coated or functionalised microparticles or nanoparticles] [N1202] [C1207]
- A61K49/18R2N . . . . [N: coated or functionalised nanoparticles (**liposomes** [A61K49/18K8](#); **nano-emulsions** [A61K49/18K](#); **micelles** [A61K49/18K4](#))] [N1202] [C1207]
- A61K49/18R2N2 . . . . . [N: having a (super)(para)magnetic core, being a solid MRI-active material, e.g. magnetite, or composed of a plurality of MRI-active, organic agents e.g. Gd-chelates, or nuclei, e.g. Eu<sup>3+</sup>, encapsulated or entrapped in the core of the coated or functionalised nanoparticle] [N1202] [C1207]
- A61K49/18R2N2B . . . . . {7 dots} [N: having a (super)(para)magnetic core coated or functionalised with an inorganic material or being composed of an inorganic material entrapping the MRI-active nucleus, e.g. silica core doped with a MRI-active nucleus] [N1202] [C1207]
- A61K49/18R2N2H . . . . . {7 dots} [N: having a **(super)(para)magnetic core coated or functionalised with a small organic molecule (oligomeric, polymeric, dendrimeric** [A61K49/18R2N2K](#))] [N1202] [C1207]
- A61K49/18R2N2H2 . . . . . {8 dots} [N: the small organic molecule being a carboxylic acid having less than 8 carbon atoms in the main chain] [N1202] [C1207]
- A61K49/18R2N2H4 . . . . . {8 dots} [N: the small organic molecule being a lipid, a fatty acid having 8 or more carbon atoms in the main chain, or a phospholipid] [N1202] [C1207]
- A61K49/18R2N2H6 . . . . . {8 dots} [N: the small organic molecule being a phosphate or a phosphonate, not being a phospholipid] [N1202] [C1207]

A61K49/18R2N2H8	. . . . .	{8 dots} [N: the small organic molecule being a carbohydrate (monosaccharides, disaccharides)] [N1202] [C1207]
A61K49/18R2N2H10	. . . . .	{8 dots} [N: the small organic molecule being a silane] [N1202] [C1207]
A61K49/18R2N2K	. . . . .	{7 dots} [N: having a (super)(para)magnetic core coated or functionalised with an organic macromolecular compound, i.e. oligomeric, polymeric, dendrimeric organic molecule (peptide or protein <a href="#">A61K49/18R2N2R</a> ; polyamino acid <a href="#">A61K49/18R2N2R4</a> ; antibody <a href="#">A61K49/18R2N2T</a> )] [N1202] [C1207]
		[N: <b>Notes</b> In case of block copolymers, the different (large) blocks are classified in the appropriate <a href="#">A61K47/48K</a> or <a href="#">A61K47/48R</a> subgroups ]
A61K49/18R2N2K4	. . . . .	{8 dots} [N: the organic macromolecular compound being obtained by reactions only involving carbon-to-carbon unsaturated bonds, e.g. poly(meth)acrylate, polyacrylamide, polyvinylpyrrolidone, polyvinylalcohol] [N1202] [C1207]
A61K49/18R2N2K6	. . . . .	{8 dots} [N: the organic macromolecular compound being obtained otherwise than by reactions only involving carbon-to-carbon unsaturated bonds, e.g. PLGA] [N1202] [C1207]
A61K49/18R2N2K6A	. . . . .	{9 dots} [N: the organic macromolecular compound being polyethyleneglycol (PEG)] [N1202] [C1207]
A61K49/18R2N2K8	. . . . .	{8 dots} [N: the organic macromolecular compound being a polysaccharide or derivative thereof, e.g. chitosan, chitin, cellulose, pectin, starch] [N1202] [C1207]
A61K49/18R2N2R	. . . . .	{7 dots} [N: the nanoparticle having a (super)(para)magnetic core coated or functionalised with a peptide, e.g. protein, polyamino acid] [N1202] [C1207]
A61K49/18R2N2R2	. . . . .	{8 dots} [N: coated or functionalised with a protein being an albumin, e.g. HSA, BSA, ovalbumin] [N1202] [C1207]
A61K49/18R2N2R4	. . . . .	{8 dots} [N: coated or functionalised with a polyamino acid, e.g. polylysine, polyglutamic acid] [N1202] [C1207]
A61K49/18R2N2T	. . . . .	{7 dots} [N: coated or functionalised with an antibody] [N1202] [C1207]
A61K49/18R2N4	. . . . .	[N: the nanoparticle having a magnetically inert core and a (super)(para)magnetic coating] [N1202] [C1207]
A61K49/18R2N4C	. . . . .	{7 dots} [N: wherein the coating consists of chelates, i.e. chelating group complexing a (super)(para)magnetic ion, bound to the surface] [N1202] [C1207]
A61K49/18R4	. . . . .	[N: Nanotubes, nanorods or nanowires] [N1202]
A61K49/18R6	. . . . .	[N: Agglomerates, clusters, i.e. more than one (super)(para)magnetic microparticle or nanoparticle are aggregated or entrapped in the same matrix] [N1202] [C1207]
A61K49/18T	. . . . .	[N: Host-guest complexes, e.g. cyclodextrins] [N0201]
A61K49/18T4	. . . . .	[N: Molecular sieves] [N0201]
A61K49/18W	. . . . .	[N: not provided for elsewhere, e.g. cells, viruses, ghosts, red blood cells, virus capsides] [N0201] [C1207]
A61K49/20	. . . . .	containing free radicals [N: e.g. trityl radical for overhauser] [N0201] [C1207]
A61K49/22	. . . . .	Echographic preparations; Ultrasound imaging preparation [N: Optoacoustic imaging]

- preparations] [N0201] [C1207]
- A61K49/22C . . . [N: characterised by the targeting agent or modifying agent linked to the acoustically-active agent] [N0201] [C1207]
- A61K49/22P . . . [N: characterised by a special physical form, e.g. emulsions, liposomes] [N0201] [C1207]
- A61K49/22P4 . . . . [N: Micro-bubbles, hollow microspheres, free gas bubbles, gas microspheres] [N0201] [C1207]
- A61K49/22P8 . . . . [N: Microparticles, microcapsules (gas-filled to be classified in [A61K49/22P4](#))] [N0201] [C1207]
- A61K49/22P12 . . . . [N: Solutes, emulsions, suspensions, dispersions, semi-solid forms, e.g. hydrogels] [N0201] [C1207]
- A61K49/22P16 . . . . [N: Liposomes, lipoprotein vesicles, e.g. LDL or HDL lipoproteins, micelles, e.g. phospholipidic or polymeric] [N0201] [C1207]
- A61K49/22P20 . . . . [N: Host-guest complexes, clathrates, chelates] [N0201] [C1207]

**A61K51/00****Preparations containing radioactive substances for use in therapy or testing in vivo**

- A61K51/02 . . . characterised by the carrier, [N: i.e. characterised by the agent or material covalently linked or complexing the radioactive nucleus] [N1205]
- A61K51/02B . . . [N: inorganic Tc complexes or compounds] [N1205]
- A61K51/04 . . . organic compounds

[N: **Note**  
Organic compounds used as carriers  
]

- A61K51/04B . . . . [N: carboxylic acid carriers, fatty acids (amino acids A61K51/04D4)] [N1205]
- A61K51/04D . . . . [N: Lipids, e.g. triglycerides; Polycationic carriers (fatty acids A61K51/04B; cholesterol A61K51/04S; polycationic carriers being oligomers, polymers, dendrimers A61K47/48K)] [N1205]
- A61K51/04D4 . . . . . [N: Amines, polyamines, e.g. spermine, spermidine, amino acids, (bis)guanidines] [N1205]
- A61K51/04D8 . . . . . [N: Phospholipids (liposomes encapsulating the radioactive probe or having no radiolabelled phospholipids A61K51/12E8)] [N1205]
- A61K51/04G . . . . [N: Heterocyclic compounds.] [N1205]

[N: **Note**  
Under this group, the last place rule is followed  
]

- A61K51/04G20 . . . . . [N: having oxygen as the only ring hetero atom, e.g. fungichromin] [N1205]
- A61K51/04G20B . . . . . [N: having three-membered rings, e.g. oxirane, fumagillin] [N1205]
- A61K51/04G20D . . . . . [N: having four-membered rings, e.g. taxol] [N1205]
- A61K51/04G20F . . . . . [N: having five-membered rings with one oxygen as the only ring hetero atom, e.g. isosorbide] [N1205]
- A61K51/04G20H . . . . . [N: having six-membered rings with one oxygen as the only ring hetero atom] [N1205]
- A61K51/04G20L . . . . . [N: having two or more oxygen atoms in the same ring, e.g. crown ethers, guanadrel] [N1205]

A61K51/04G20M	. . . . .	[N: compounds containing methylenedioxyphenol groups, e.g. sesamin] [N1205]
A61K51/04G20P	. . . . .	[N: Lactones] [N1205]
A61K51/04G40	. . . . .	[N: having sulfur as a ring hetero atom] [N1205]
A61K51/04G40B	. . . . .	[N: having five-membered rings] [N1205]
A61K51/04G40F	. . . . .	[N: having six-membered rings, e.g. thioxanthenes (thiotixene A61K51/04G60M)] [N1205]
A61K51/04G40K	. . . . .	[N: having two or more sulfur atoms in the same ring] [N1205]
A61K51/04G40P	. . . . .	[N: having oxygen in the same ring] [N1205]
A61K51/04G60	. . . . .	[N: having nitrogen as a ring hetero atom, e.g. guanethidine, rifamycins (rifampin A61K51/04G60M)] [N1205]
A61K51/04G60B	. . . . .	[N: having three-membered rings, e.g. aziridine] [N1205]
A61K51/04G60D	. . . . .	[N: having four-membered rings, e.g. azetidine] [N1205]
A61K51/04G60F	. . . . .	[N: having five-membered rings with one nitrogen as the only ring hetero atom, e.g. sulpiride, succinimide, tolmetin, buflomedil] [N1205]
A61K51/04G60F4	. . . . .	[N: tropane or nortropane groups, e.g. cocaine] [N1205]
A61K51/04G60F8	. . . . .	[N: having four such rings, e.g. porphine derivatives, bilirubin, biliverdine (hemin, hematin A61K51/04G80)]
		[N: <b>Note</b> Porphyrins or texaphyrins used as complex-forming compounds, i.e. wherein the nitrogen atoms forming the central ring system complex the radioactive metal, are classified in <a href="#">A61K51/04L16</a> ]
A61K51/04G60H	. . . . .	[N: having five-membered rings with two or more ring hetero atoms, at least one of which being nitrogen, e.g. tetrazole] [N1205]
A61K51/04G60K	. . . . .	[N: having six-membered rings with one nitrogen as the only ring hetero atom] [N1205]
A61K51/04G60K4	. . . . .	[N: Vesamicol] [N1205]
A61K51/04G60M	. . . . .	[N: having six-membered rings with two nitrogen atoms as the only ring hetero atoms, e.g. piperazine] [N1205]
A61K51/04G60P	. . . . .	[N: having six-membered rings with three nitrogens as the only ring hetero atoms, e.g. chlorazaniil, melamine (melarsoprol A61K51/04G80)] [N1205]
A61K51/04G60S	. . . . .	[N: having six-membered rings with at least one nitrogen and one oxygen as the ring hetero atoms, e.g. 1,2-oxazines] [N1205]
A61K51/04G60T	. . . . .	[N: having six-membered rings with at least one nitrogen and one sulfur as the ring hetero atoms, e.g. sulthiame] [N1205]
A61K51/04G60X	. . . . .	[N: having seven-membered rings, e.g. azelastine, pentylenetetrazole] [N1205]
A61K51/04G60X4	. . . . .	[N: Benzodiazepines] [N1205]
A61K51/04G80	. . . . .	[N: containing heavy metals, e.g. hemin, hematin, melarsoprol] [N1205]
A61K51/04L	. . . . .	[N: complexes or complex-forming compounds, i.e. wherein a radioactive metal (e.g. <sup>111</sup> In <sup>3+</sup> ) is complexed or chelated by e.g. a N <sub>2</sub> S <sub>2</sub> , N <sub>3</sub> S, NS <sub>3</sub> , N <sub>4</sub> chelating group] [M1205]

[N: **Note** [N1205]

Classification is made according to the nature of this complex-forming agent, if it is either an uncommon or new complexing agent (not the usual DTPA, DOTA,

DOTP, MAG3 etc...groups) that forms the real contribution to the claimed invention (radioimaging or radiotherapeutic agent), or if it is not conjugated to any further molecule, e.g. which is not conjugated to a polymer, peptide, protein or antibody. In that latter case, the radioactive agent is e.g. a radioactive metal chelate

]

- A61K51/04L4 . . . . [N: complexes from monodendate ligands, e.g. sestamibi] [N1205]
- A61K51/04L8 . . . . [N: complexes from non-cyclic ligands, e.g. EDTA, MAG3] [N1205]
- A61K51/04L8D . . . . . [N: DTPA (diethylenetriamine tetraacetic acid)] [N1205]
- A61K51/04L12 . . . . [N: chelates from cyclic ligands, e.g. DOTA] [N1205]
- A61K51/04L16 . . . . [N: Porphyrins, texaphyrins wherein the nitrogen atoms forming the central ring system complex the radioactive metal] [M1205]
- [N: **Note** [N1205]  
Porphyrins used as simple heterocyclic carriers containing a radioactive nucleus (e.g. 11C) or substituted with a radioactive nucleus (e.g. 18F), are classified in [A61K51/04G60F8](#)  
]
- A61K51/04L20 . . . . [N: Metallocenes, i.e. complexes based on a radioactive metal complexed by two cyclopentadienyl anions] [N1205]
- A61K51/04P . . . . [N: Phosphates or phosphonates, e.g. bone-seeking phosphonates; (phospholipids: A61K51/04D8; nucleotides or nucleic acids: A61K51/04R)] [N1205]
- A61K51/04R . . . . [N: Sugars, nucleosides, nucleotides, oligonucleotides, nucleic acids, e.g. DNA, RNA, nucleic acid aptamers] [N1205]
- A61K51/04S . . . . [N: Steroids, e.g. cholesterol, testosterone] [N1205]
- A61K51/04V . . . . [N: Pretargeting]
- [N: **Notes** [N1205]  
Pretargeting is the administration of an agent X bearing the radioisotope or radioactive nucleus and of an agent Y capable of binding X and a cell Y in several steps, e.g. the radiolabelled agent is a radiolabelled biotin and the agent Y is a (strept)avidin molecule targeting specific cells. Classification is also made according to the nature of the carrier bearing/linked to the radioactive nucleus, e.g. an antibody  
]
- A61K51/04Z . . . . [N: conjugates with a carrier being an organic compounds] [N9409] [M1205]
- [N: **Note** [N1205]  
The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked or complexed to the carrier being another (small) organic molecule, i.e. not oligomeric, polymeric, dendrimeric. Classification is also made according to the nature of this small organic molecule. In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (organic compound in [A61K49/04Z](#)), the nature of this complex-forming compound is not classified except if the complexing/chelating group is the subject of the invention and is uncommon, e.g. 111In-DTPA-glucose is classified in [A61K51/04Z](#) (not in [A61K51/04L8D](#)) and in [A61K51/04R](#)  
]
- A61K51/06 . . . . Macromolecular compounds, [N: carriers being organic macromolecular compounds, i.e. organic oligomeric, polymeric, dendrimeric molecules (peptides, proteins, polyamino acids A61K51/08; antibodies A61K51/10)]

- N1205]
- A61K51/06Z . . . . [N: conjugates with carriers being macromolecules] [N9409] [M1205]
- [N: **Note** [N1205]  
The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked or complexed to the carrier being a macromolecule (not being a peptide, polyamino acid, protein, antibody). In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (organic macromolecular compound in [A61K49/06Z](#)), the nature of this complex-forming compound is not classified except if it is the real contribution of the claimed invention and it is an uncommon complexing/chelating group, e.g. 111In-DTPA-PEG is classified in [A61K51/06Z](#) and new DTPA-like derivatives conjugated to PEG and complexing 111In for use in vivo is classified in [A61K51/04L8](#) and [A61K51/06Z](#)  
]
- A61K51/08 . . . . Peptides, e.g. proteins, [N: carriers being peptides, polyamino acids, proteins] [N1205]
- A61K51/08H . . . . [N: the protein being an albumin, e.g. human serum albumin (HSA), bovine serum albumin (BSA), ovalbumin] [N1205]
- A61K51/08J . . . . [N: the peptide being a RGD-containing peptide] [N1205]
- A61K51/08K . . . . [N: the peptide being octreotide or a somatostatin-receptor-binding peptide] [N1205]
- A61K51/08L . . . . [N: the peptide being oxytocin] [N1205]
- A61K51/08M . . . . [N: the peptide being neurotensin] [N1205]
- A61K51/08N . . . . [N: the peptide being alphaMSH, alpha melanocyte stimulating hormone] [N1205]
- A61K51/08P . . . . [N: the peptide being an annexin, e.g. annexin V] [N1205]
- A61K51/08Z . . . . [N: conjugates with carriers being peptides, polyamino acids, proteins (antibodies [A61K51/10](#))] [N9409] [M1205]
- [N: **Note** [N1205]  
The compound which bears, complexes or chelates the radioactive nucleus, is covalently linked/complexed to the carrier being a peptide, polyamino acid, protein (not being an antibody). Classification is also made according to the nature of the peptide or protein (e.g. if it is BSA, then [A61K51/08H](#) is also indicated). In case of a conjugate comprising a complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (peptide, protein, polyamino acid in [A61K51/08Z](#)), the nature of this complex-forming compound is not classified except if it is the real contribution of the claimed invention and it is an uncommon complexing or chelating group, e.g. 111In-DTPA-interleukin 2 is classified in [A61K51/08Z](#); new DTPA-like derivatives conjugated to interleukin 2 and complexing 111In for use in vivo is classified in [A61K51/04L8](#) and [A61K51/08Z](#)  
]
- A61K51/10 . . . . Antibodies or immunoglobulins; Fragments thereof, [N: the carrier being an antibody or an immunoglobulin, or a fragment thereof, e.g. a camelised human single domain antibody, or the Fc fragment of an antibody] [N1205]
- A61K51/10B . . . . . [N: not used, see subgroups] [N9411]
- A61K51/10B8 . . . . . [N: the antibody being against or targeting material from viruses] [N1205]
- A61K51/10B12 . . . . . [N: against material from bacteria] [N1205]
- A61K51/10B14 . . . . . [N: against material from fungi, lichens, algae] [N1205]

A61K51/10B16	. . . . .	[N: against material from plants] [N1205]
A61K51/10B18	. . . . .	[N: against material from animals or humans] [N1205]
A61K51/10B24	. . . . .	[N: against cytokines, e.g. growth factors, VEGF, TNF, lymphokines, interferons] [N1205]
A61K51/10B26	. . . . .	[N: against hormones, hormone-releasing or hormone-inhibiting factors] [N1205]
A61K51/10B28	. . . . .	[N: against receptors, cell-surface antigens, cell-surface determinants] [N1205]
A61K51/10B28G	. . . . .	{7 dots} [N: against receptors for growth factors or receptors for growth regulators] [N1205]
A61K51/10B28H	. . . . .	{7 dots} [N: against receptors for cytokines, lymphokines, interferons] [N1205]
A61K51/10B28K	. . . . .	{7 dots} [N: against hormone receptors] [N1205]
A61K51/10B28L	. . . . .	{7 dots} [N: against T-cell receptors] [N1205]
A61K51/10B28L2	. . . . .	{8 dots} [N: against Tcell receptor (TcR)-CD3 complex] [N9411]
A61K51/10B30	. . . . .	[N: against animal or human tumor cells or tumor cell determinants] [N1205]
A61K51/10B30A	. . . . .	{7 dots} [N: the tumor cell determinant being a carcino embryonic antigen] [N1205]
A61K51/10B30B	. . . . .	{7 dots} [N: the tumor cell being from breast, e.g. the antibody being herceptin] [N1205]
A61K51/10B30D	. . . . .	{7 dots} [N: the tumor cell being from lung] [N1205]
A61K51/10B30F	. . . . .	{7 dots} [N: the tumour cell being from liver or pancreas] [N1205]
A61K51/10B30H	. . . . .	{7 dots} [N: the tumor cell being from kidney, bladder] [N1205]
A61K51/10B30K	. . . . .	{7 dots} [N: the tumor cell being from stomach or intestines] [N1205]
A61K51/10B30L	. . . . .	{7 dots} [N: the tumor cell being from skin] [N1205]
A61K51/10B30M	. . . . .	{7 dots} [N: the tumor cell being from blood cells, e.g. the cancer being a myeloma] [N1205]
A61K51/10B30P	. . . . .	{7 dots} [N: the tumor cell being from the reproductive system, e.g. ovaria, uterus, testes, prostate] [N1205]
A61K51/10B40	. . . . .	[N: the antibody being against an enzyme] [N1205]
A61K51/10B42	. . . . .	[N: the antibody being against an immunoglobulin, i.e. being an (anti)-anti-idiotypic antibody] [N1205]
A61K51/10B44	. . . . .	[N: the antibody being against a material not provided elsewhere] [N1205]
A61K51/10B46	. . . . .	[N: the antibody being a hybrid immunoglobulin] [N1205]
A61K51/10B46B	. . . . .	{7 dots} [N: the immunoglobulin comprises domains from different animal species, e.g. chimeric immunoglobulins] [N1205]
A61K51/10B46D	. . . . .	{7 dots} [N: immunoglobulins having two or more different antigen-binding sites, multifunctional antibodies] [N1205]
A61K51/10Z	. . . . .	[N: conjugates with carriers being antibodies] [M1205]

[N: **Note** [N1205]

The compound which bears, complexes or chelates the radioactive nucleus, being covalently linked or complexed to the carrier being an antibody Classification being also made according to the appropriate [A61K51/10B](#) subclass. In case of a conjugate comprising a

- complex-forming compound (chelating group) complexing a radioactive metal linked to the carrier (antibody in [A61K51/10Z](#)), the nature of this complex-forming compound being not classified except if it being the real contribution of the claimed invention and it being an uncommon complexing/chelating group, e.g. <sup>111</sup>In-DTPA-herceptin being classified in [A61K51/10Z](#) and [A61K51/10B30B](#), new DTPA-like derivatives conjugated to herceptin and complexing <sup>111</sup>In for use in vivo being classified in [A61K51/04L8](#), [A61K51/10Z](#) and [A61K51/10B30B](#) ]
- [A61K51/10Z6](#) . . . . . [N: radioimmunotoxins, i.e. conjugates being structurally as defined in [A61K51/10Z](#), and including a radioactive nucleus for use in radiotherapeutic applications] [N1205]
- [A61K51/12](#) . characterised by a special physical form, e.g. emulsion, microcapsules, liposomes, [N: characterized by a special physical form, e.g. emulsions, dispersions, microcapsules (liposomes [A61K51/12E12](#))] [N1205]
- [A61K51/12A](#) . . [N: in a form not provided for by groups [A61K51/12B](#) to [A61K51/12W](#), e.g. cells, cell fragments, viruses, virus capsides, ghosts, red blood cells, viral vectors] [N9804] [C1205]
- [A61K51/12B](#) . . [N: Administration of radioactive gases, aerosols or breath tests] [N1205]
- [A61K51/12C](#) . . [N: Solutions, i.e. homogeneous liquid formulation] [N1205]
- [A61K51/12D](#) . . [N: Semi-solid forms, gels, hydrogels, ointments, fats and waxes that are solid at room temperature] [N1205]
- [A61K51/12E](#) . . [N: Dispersions, suspensions, colloids, emulsions, e.g. perfluorinated emulsion, sols] [N1205]
- [A61K51/12E2](#) . . . [N: Micro-emulsions, nano-emulsions] [N1205]
- [A61K51/12E4](#) . . . [N: Lipoprotein vesicles, e.g. HDL and LDL proteins] [N1205]
- [A61K51/12E6](#) . . . [N: Micelles, e.g. phospholipidic or polymeric micelles] [N1205]
- [A61K51/12E8](#) . . . [N: Aerosols or breath tests, e.g. administration of gasses, emanators] [N9804]
- [A61K51/12E12](#) . . . [N: Liposomes] [N: Note Liposomes modified on their external surface by a targeting agent, e.g. an antibody, are not additionally classified with the symbol of the targeting agent] [N1205]
- [N: **Note**  
Note Liposomes modified on their external surface by a targeting agent, e.g. an antibody, are not additionally classified with the symbol of the targeting agent ]
- [A61K51/12E12A](#) . . . . [N: Polymersomes, i.e. liposomes with polymerisable or polymerized bilayer-forming substances] [N1205]
- [A61K51/12H](#) . . [N: particles, powders, lyophilizates, adsorbates, e.g. polymers or resins for adsorption or ion-exchange resins] [N1205]
- [A61K51/12H2](#) . . . [N: micro- particles or nano-particles, e.g. polymeric nanoparticles] [N1205]
- [A61K51/12H2A](#) . . . . [N: nanotubes] [N1205]
- [A61K51/12H2B](#) . . . . [N: micro- or nano-spheres, micro- or nano-beads, micro- or nano-capsules] [N1205]
- [A61K51/12H4](#) . . . [N: Granulates, agglomerates, microspheres] [N9804]
- [A61K51/12K](#) . . [N: Pills, tablets, lozenges] [N9804]
- [A61K51/12M](#) . . [N: Capsules] [N9804]
- [A61K51/12M4](#) . . . [N: Microcapsules] [N9804]

- A61K51/12N . . [N: host-guest, closed hollow molecules, inclusion complexes, e.g. with cyclodextrins, clathrates, cavitates, fullerenes] [N1205]
- A61K51/12P . . [N: Sponges] [N1205]
- A61K51/12R . . [N: Fibers, textiles, slabbs, or sheets] [N1205]
- A61K51/12S . . [N: Plasters, bandages, dressings, patches or adhesives] [N1205]
- A61K51/12T . . [N: Devices used in vivo and carrying the radioactive therapeutic or diagnostic agent, therapeutic or in vivo diagnostic kits, stents] [N1205]
- A61K51/12T4 . . . [N: Ampoules, glass carriers carrying the therapeutic or in vivo diagnostic agent] [N1205]
- A61K51/12T8 . . . [N: Devices or containers for impregnation, for emanation, e.g. bottles or jars for radioactive water for use in radiotherapy] [N1205]
- A61K51/12V . . [N: Radioactive cosmetics, e.g. radioactive bathsalts, soaps] [N1205]
- A61K51/12W . . [N: Radioactive food, e.g. chocolates, drinks] [N1205]