

CPC COOPERATIVE PATENT CLASSIFICATION

C07K **PEPTIDES** (peptides in foodstuffs [A23](#); obtaining protein compositions for foodstuffs, working-up proteins for foodstuffs [A23J](#); preparations for medicinal purposes [A61K](#); peptides containing beta-lactam rings [C07D](#); cyclic dipeptides not having in their molecule any other peptide link than those which form their ring, e.g. piperazine-2,5-diones, [C07D](#); ergot alkaloids of the cyclic peptide type [C07D 519/02](#); macromolecular compounds having statistically distributed amino acid units in their molecules, i.e. when the preparation does not provide for a specific; but for a random sequence of the amino acid units, homopolyamides and block copolyamides derived from amino acids [C08G 69/00](#); macromolecular products derived from proteins [C08H 1/00](#); preparation of glue or gelatine [C09H](#); single cell proteins, enzymes [C12N](#); genetic engineering processes for obtaining peptides [C12N 15/00](#); compositions for measuring or testing processes involving enzymes [C12Q](#); investigation or analysis of biological material [G01N 33/00](#))

NOTES

- In this subclass, the following terms or expressions are used with the meanings indicated:
 - "amino acids" are compounds in which at least one amino group and at least one carboxyl group are bound to the same carbon skeleton and the nitrogen atom of the amino group may form part of a ring;
 - "normal peptide link" is one between an alpha-amino group of an amino acid and the carboxyl group - in position 1 - of another alpha-amino acid;
 - "abnormal peptide link" is a link where at least one of the linked amino acids is not an alpha-amino acid or a link formed by at least one carboxyl or amino group being part of the side chain of a alpha-amino acid;
 - "peptides" are compounds containing at least two amino acid units, which are bound through at least one normal peptide link, including oligopeptides, polypeptides and proteins, where:
 - "linear peptides" may comprise rings formed through S-S bridges, or through a hydroxy or a mercapto group of an hydroxy- or mercapto-amino acid and the carboxyl group of another amino acid, (e.g. peptide lactones) but do not comprise rings which are formed only through peptide links;
 - "cyclic peptides" are peptides comprising at least one ring formed only through peptide links; the cyclisation may occur only through normal peptide links or through abnormal peptide links, e.g. through the 4-amino group of 2,4-diaminobutanoic acid. Thus, cyclic compounds in which at least one link in the ring is a non-peptide link are considered as "linear peptides";
 - "depsipeptides" are compounds containing a sequence of at least two alpha-amino acids and at least one alpha-hydroxy carboxylic acid, which are bound through at least one normal peptide link and ester links, derived from the hydroxy carboxylic acids, where:
 - "linear depsipeptides" may comprise rings formed through S-S bridges, or through an hydroxy or a mercapto group of an hydroxy- or mercapto-amino acid and the carboxyl group of another amino- of hydroxy-acid but do not comprise rings formed only through peptide or ester links derived from hydroxy carboxylic acids, e.g. Gly-Ala-Gly-OCH₂CO₂H and Gly-OCH₂CO-Ala-Gly are considered as "linear depsipeptides", but HOCH₂CO-Gly-Ala-Gly does not contain an ester link, and is thus a derivative of Gly-Ala-Gly which is covered by [C07K 5/08](#);
 - "cyclic depsipeptides" are peptides containing at least one ring formed only through peptide or ester links - derived from hydroxy carboxylic acids -, e.g. Gly-Ala-Gly-OCH₂CO.
- 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 parent peptides. However, fragments of peptides having only four or less amino acids are also classified in group [C07K 5/00](#).
- Peptides prepared by chemical processes and having an amino acid sequence derived from naturally occurring peptides are classified with the natural one.
- Peptides prepared by recombinant DNA technology are not classified according to the host, but according to the original peptide expressed, e.g. HIV peptide expressed in E. coli is classified with HIV peptides.
- When classifying in this subclass, classification is also made in group [B01D 15/08](#) insofar as subject matter of general interest relating to chromatography is concerned.

WARNING

The following IPC groups are not used in the CPC scheme. Subject matter covered by these groups is classified in the following CPC groups:

C07K 5/023	covered by	C07K 5/0202
C07K 5/027	covered by	C07K 5/0205
C07K 5/03	covered by	C07K 5/0207
C07K 5/033	covered by	C07K 5/021
C07K 5/037	covered by	C07K 5/0215
C07K 5/062	covered by	C07K 5/06017
C07K 5/065	covered by	C07K 5/06078
C07K 5/068	covered by	C07K 5/06086

C07K

C07K

(continued)

[C07K 5/072](#)
[C07K 5/075](#)
[C07K 5/078](#)
[C07K 5/083](#)
[C07K 5/087](#)
[C07K 5/09](#)
[C07K 5/093](#)
[C07K 5/097](#)
[C07K 5/103](#)
[C07K 5/107](#)
[C07K 5/11](#)
[C07K 5/113](#)
[C07K 5/117](#)
[C07K 14/185](#)
[C07K 14/725](#)
[C07K 14/73](#)
[C07K 14/735](#)
[C07K 14/74](#)

covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by
covered by

[C07K 5/06104](#)
[C07K 5/0613](#)
[C07K 5/06139](#)
[C07K 5/0804](#)
[C07K 5/0812](#)
[C07K 5/0815](#)
[C07K 5/0819](#)
[C07K 5/0821](#)
[C07K 5/1005](#)
[C07K 5/1016](#)
[C07K 5/1019](#)
[C07K 5/1021](#)
[C07K 5/1024](#)
[C07K 14/1816](#)
[C07K 14/705](#)
[C07K 14/70514](#)
[C07K 14/70535](#)
[C07K 14/70539](#)

1/00 General methods for the preparation of peptides {, i.e. processes for the organic chemical preparation of peptides or proteins of any length}
1/003 . {by transforming the C-terminal amino acid to amides}
1/006 . {of peptides containing derivatised side chain amino acids}
1/02 . in solution {([C07K 1/003](#), [C07K 1/006](#) take precedence)}
1/023 . . {using racemisation inhibiting agents}
1/026 . . {by fragment condensation in solution}
1/04 . on carriers {([C07K 1/003](#), [C07K 1/006](#) take precedence)}
1/042 . . {characterised by the nature of the carrier}
1/045 . . {using devices to improve synthesis, e.g. reactors, special vessels}
1/047 . . {Simultaneous synthesis of different peptide species; Peptide libraries}
1/06 . using protecting groups or activating agents {([C07K 1/003](#), [C07K 1/006](#) take precedence)}
1/061 . . {using protecting groups}
1/062 . . . {for alpha- or omega-carboxy functions}
1/063 . . . {for alpha-amino functions}
1/064 . . . {for omega-amino or -guanidino functions}
1/065 . . . {for hydroxy functions, not being part of carboxy functions}
1/066 . . . {for omega-amido functions}
1/067 . . . {for sulfur-containing functions}
1/068 . . . {for heterocyclic side chains}
1/08 . . using activating agents {([C07K 1/003](#), [C07K 1/006](#) take precedence)}
1/082 . . . {containing phosphorus}
1/084 . . . {containing nitrogen}
1/086 . . . {containing sulfur}
1/088 . . . {containing other elements, e.g. B, Si, As}
1/10 . using coupling agents {([C07K 1/006](#) takes precedence)}
1/107 . by chemical modification of precursor peptides
1/1072 . . {by covalent attachment of residues or functional groups}
1/1075 . . . {by covalent attachment of amino acids or peptide residues}

1/1077 . . . {by covalent attachment of residues other than amino acids or peptide residues, e.g. sugars, polyols, fatty acids}
1/113 . . without change of the primary structure
1/1133 . . . {by redox-reactions involving cystein/cystin side chains}
1/1136 . . . {by reversible modification of the secondary, tertiary or quarternary structure, e.g. using denaturing or stabilising agents}
1/12 . by hydrolysis {, i.e. solvolysis in general}
1/122 . . {Hydrolysis with acids different from HF}
1/124 . . {Hydrazinolysis}
1/126 . . {Aminolysis}
1/128 . . {sequencing}
1/13 . Labelling of peptides
1/14 . Extraction; Separation; Purification
1/145 . . {by extraction or solubilisation}
1/16 . . by chromatography
1/165 . . . {mixed-mode chromatography}
1/18 . . . Ion-exchange chromatography
1/20 . . . Partition-, reverse-phase or hydrophobic interaction chromatography
1/22 . . . Affinity chromatography or related techniques based upon selective absorption processes
1/24 . . by electrochemical means
1/26 . . . Electrophoresis
1/28 Isoelectric focusing
1/285 {multi dimensional electrophoresis}
1/30 . . by precipitation
1/303 . . . {by salting out}
1/306 . . . {by crystallization}

NOTE

Large single crystals of proteins from solutions are classified in [C30B 7/00](#) for the method and in [C30B 29/58](#) for the crystal

1/32 . . . as complexes
1/34 . . by filtration, ultrafiltration or reverse osmosis
1/36 . . by a combination of two or more processes of different types

2/00 Peptides of undefined number of amino acids; Derivatives thereof

4/00 Peptides having up to 20 amino acids in an undefined or only partially defined sequence; Derivatives thereof

- 4/02 . from viruses
- 4/04 . from bacteria
- 4/06 . from fungi
- 4/08 . from algae; from lichens
- 4/10 . from plants
- 4/12 . from animals; from humans

NOTE

If no indication to the contrary is given, all amino acids are considered to be in the natural L-form

5/00 Peptides containing up to four amino acids in a fully defined sequence; Derivatives thereof

- 5/02 . containing at least one abnormal peptide link
- 5/0202 . . {containing the structure -NH-X-X-C(=O)-, X being an optionally substituted carbon atom or a heteroatom, e.g. beta-amino acids}
- 5/0205 . . {containing the structure -NH-(X)3-C(=O)-, e.g. statine or derivatives thereof}
- 5/0207 . . {containing the structure -NH-(X)4-C(=O)-, e.g. 'isosters', replacing two amino acids}
- 5/021 . . {containing the structure -NH-(X)n-C(=O)-, n being 5 or 6; for n > 6, classification in [C07K 5/06](#) - [C07K 5/10](#), according to the moiety having normal peptide bonds}
- 5/0212 . . {containing the structure -N-C-N-C(=O)-, e.g. retro-inverso peptides}
- 5/0215 . . {containing natural amino acids, forming a peptide bond via their side chain functional group, e.g. epsilon-Lys, gamma-Glu}
- 5/0217 . . {containing the structure -C(=O)-C-N-C(=O)-N-C-C(=O)-}
- 5/022 . . {containing the structure -X-C(=O)-(C)n-N-C-C(=O)-Y-; X and Y being heteroatoms; n being 1 or 2}
- 5/0222 . . . {with the first amino acid being heterocyclic, e.g. Pro, Trp}
- 5/0225 . . {containing the structure -N-C-C(=O)-N-C(=O)-C-N-}
- 5/0227 . . {containing the (partial) peptide sequence -Phe-His-NH-(X)2-C(=O)-, e.g. Renin-inhibitors with n = 2 - 6; for n > 6 see [C07K 5/06](#) - [C07K 5/10](#)}
- 5/04 . containing only normal peptide links

NOTE

In groups [C07K 5/06](#) - [C07K 5/10](#) the following terms or expressions are used with the meaning indicated:

neutral: amino acids having in the sidechain the same number of amino groups and carboxylic acid groups or derivatives thereof, e.g. Gly;

basic: amino acids having in the sidechain more amino groups than carboxylic acid groups or derivatives thereof, e.g. Arg;

acidic: amino acids having in the sidechain more carboxylic acid groups or

derivatives thereof than amino groups, e.g. Asp;

aliphatic: amino acids having only acyclic carbon atoms in the sidechain, e.g. Ala

aromatic;

cycloaliphatic: amino acids having a carbocyclic ring in the sidechain, e.g. Phe

heterocyclic: amino acids wherein the sidechain contains or is part of a heteroring, e.g. Pro;

side chain: the R radical in the optionally functionalised amino acid R-CH(NH₂)CO₂H)

- 5/06 . . Dipeptides
- 5/06008 . . . {with the first amino acid being neutral}
- 5/06017 {and aliphatic}
- 5/06026 {the side chain containing 0 or 1 carbon atom, i.e. Gly or Ala}
- 5/06034 {the side chain containing 2 to 4 carbon atoms}
- 5/06043 {Leu-amino acid}
- 5/06052 {Val-amino acid}
- 5/0606 {the side chain containing heteroatoms not provided for by [C07K 5/06086](#) - [C07K 5/06139](#), e.g. Ser, Met, Cys, Thr}
- 5/06069 {Ser-amino acid}
- 5/06078 {and aromatic or cycloaliphatic}
- 5/06086 . . . {with the first amino acid being basic}
- 5/06095 {Arg-amino acid}
- 5/06104 . . . {with the first amino acid being acidic}
- 5/06113 {Asp- or Asn-amino acid}
- 5/06121 {the second amino acid being aromatic or cycloaliphatic}
- 5/0613 {Aspartame}
- 5/06139 . . . {with the first amino acid being heterocyclic}
- 5/06147 {and His-amino acid; Derivatives thereof}
- 5/06156 {and Trp-amino acid; Derivatives thereof}
- 5/06165 {and Pro-amino acid; Derivatives thereof}
- 5/06173 {and Glp-amino acid; Derivatives thereof}
- 5/06182 {and Pristinamycin II; Derivatives thereof}
- 5/06191 . . . {containing heteroatoms different from O, S, or N}
- 5/08 . . Tripeptides
- 5/0802 . . . {with the first amino acid being neutral}
- 5/0804 {and aliphatic}
- 5/0806 {the side chain containing 0 or 1 carbon atoms, i.e. Gly, Ala}
- 5/0808 {the side chain containing 2 to 4 carbon atoms, e.g. Val, Ile, Leu}
- 5/081 {the side chain containing O or S as heteroatoms, e.g. Cys, Ser}
- 5/0812 {and aromatic or cycloaliphatic}
- 5/0815 . . . {with the first amino acid being basic}
- 5/0817 {the first amino acid being Arg}
- 5/0819 . . . {with the first amino acid being acidic}
- 5/0821 . . . {with the first amino acid being heterocyclic, e.g. His, Pro, Trp}
- 5/0823 {and Pro-amino acid; Derivatives thereof}

- 5/0825 {and Glp-amino acid; Derivatives thereof}
- 5/0827 . . . {containing heteroatoms different from O, S, or N}
- 5/10 . . Tetrapeptides
- 5/1002 . . . {with the first amino acid being neutral}
- 5/1005 {and aliphatic}
- 5/1008 {the side chain containing 0 or 1 carbon atoms, i.e. Gly, Ala}
- 5/101 {the side chain containing 2 to 4 carbon atoms, e.g. Val, Ile, Leu}
- 5/1013 {the side chain containing O or S as heteroatoms, e.g. Cys, Ser}
- 5/1016 {and aromatic or cycloaliphatic}
- 5/1019 . . . {with the first amino acid being basic}
- 5/1021 . . . {with the first amino acid being acidic}
- 5/1024 . . . {with the first amino acid being heterocyclic}
- 5/1027 . . . {containing heteroatoms different from O, S, or N}
- 5/12 . . Cyclic peptides {with only normal peptide bonds in the ring}

NOTE

Cyclic peptides containing at least one abnormal peptide link are classified as linear peptides

- 5/123 . . . {Tripeptides}
- 5/126 . . . {Tetrapeptides}

7/00 Peptides having 5 to 20 amino acids in a fully defined sequence; Derivatives thereof

NOTE

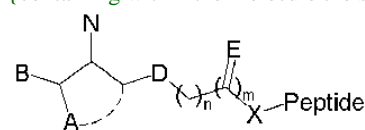
In this subgroup cyclic compounds related to specific compounds which are classified in a specific group, e.g. [C07K 7/062](#), are classified in this specific group only

- 7/02 . . Linear peptides containing at least one abnormal peptide link
- 7/04 . . Linear peptides containing only normal peptide links
- 7/06 . . having 5 to 11 amino acids
- 7/062 . . . {Serum thymic factor}
- 7/065 . . . {Thymic humoral factor}
- 7/067 . . . {Hemoregulatory peptides based on sequence Glp-Glu-Asp-Cys-Lys}
- 7/08 . . having 12 to 20 amino acids ([gastrins C07K 14/595](#); [somatostatins C07K 14/655](#); [melanotropins C07K 14/68](#))
- 7/083 . . . {Neurotensin}
- 7/086 . . . {Bombesin; Related peptides (having more than 20 amino acids [C07K 14/57572](#))}
- 7/14 . . Angiotensins; Related peptides
- 7/16 . . Oxytocins; Vasopressins; Related peptides
- 7/18 . . Kallidins; Bradykinins; Related peptides
- 7/22 . . {Tachykinins, e.g.} Eledoisins, {Substance P}; Related peptides
- 7/23 . . Luteinising hormone-releasing hormone [LHRH]; Related peptides
- 7/28 . . Gramicidins A, B, D; Related peptides
- 7/50 . . Cyclic peptides containing at least one abnormal peptide link
- 7/52 . . with only normal peptide links in the ring
- 7/54 . . with at least one abnormal peptide link in the ring

- 7/56 . . . the cyclisation not occurring through 2,4-diamino-butanoic acid
- 7/58 Bacitracins; Related peptides
- 7/60 . . . the cyclisation occurring through the 4-amino group of 2,4-diamino-butanoic acid
- 7/62 Polymyxins; Related peptides
- 7/64 . . Cyclic peptides containing only normal peptide links
- 7/645 . . {Cyclosporins; Related peptides}
- 7/66 . . Gramicidins S, C; Tyrocidins A, B, C; Related peptides

9/00 Peptides having up to 20 amino acids, containing saccharide radicals and having a fully defined sequence; Derivatives thereof

- 9/001 . . {the peptide sequence having less than 12 amino acids and not being part of a ring structure}
- 9/003 . . {Peptides being substituted by heterocyclic radicals, e.g. bleomycin, phleomycin}
- 9/005 . . {containing within the molecule the substructure with m, n >



0 and m+n > 0, A, B, D, E being heteroatoms; X being a bond or a chain, e.g. muramylpeptides}

- 9/006 . . {the peptide sequence being part of a ring structure}
- 9/008 . . {directly attached to a hetero atom of the saccharide radical, e.g. actaplanin, avoparcin, ristomycin, vancomycin}

11/00 Depsipeptides having up to 20 amino acids in a fully defined sequence; Derivatives thereof

- 11/02 . . cyclic, e.g. valinomycins {Derivatives thereof}

14/00 Peptides having more than 20 amino acids; Gastrins; Somatostatins; Melanotropins; Derivatives thereof

- 14/001 . . {by chemical synthesis}
- 14/003 . . {Peptide-nucleic acids (PNAs)}
- 14/005 . . from viruses

NOTE

When classifying in this group, subject-matter related to viral proteins shall be classified by the symbol [C07K 14/005](#) together with (a number of) appropriate indexing codes out of [C12N 2710/00-C12N 2795/00](#)

WARNING

1. From March 15, 2012 groups [C07K 14/01](#) - [C07K 14/19](#) and subgroups thereof are no longer used for the classification of new documents. 2. Reclassification of the back-file follows the principle outlined in the Note here above

- 14/01 . . DNA viruses
- 14/015 . . . Parvoviridae, e.g. feline panleukopenia virus, human parvovirus
- 14/02 . . . Hepadnaviridae, e.g. hepatitis B virus
- 14/025 . . . Papovaviridae, e.g. papillomavirus, polyomavirus, SV40, BK virus, JC virus
- 14/03 . . . Herpetoviridae, e.g. pseudorabies virus
- 14/032 {Pseudorabies virus, i.e. Anjitzky virus}
- 14/035 Herpes simplex virus I or II

14/04	. . . . Varicella-zoster virus	indication of the order (O), family (F) or genus (G) of the bacteria is given in brackets.
14/045	. . . . . Cytomegalovirus	
14/05	. . . . . Epstein-Barr virus	
14/055	. . . . . Marek's disease virus	14/20 . . from Spirochaetales (O), e.g. Treponema, Leptospira
14/06	. . . . . Infectious bovine rhinotracheitis virus	14/205 . . from Campylobacter (G)
14/065	. . . Poxviridae, e.g. avipoxvirus	14/21 . . from Pseudomonadaceae (F)
14/07	. . . . . Vaccinia virus; Variola virus	14/212 . . . {Moraxellaceae, e.g. Acinetobacter, Moraxella, Oligella, Psychrobacter}
14/075	. . . Adenoviridae	14/215 . . from Halobacteriaceae (F)
14/08	. . RNA viruses	14/22 . . from Neisseriaceae (F)
14/082	. . . {Arteriviridae, e.g. EAV, PRRSV}	14/225 . . from Alcaligenes (G)
14/085	. . . Picornaviridae, e.g. coxsackie virus, echovirus, enterovirus	14/23 . . from Brucella (G)
14/09	. . . . . Foot-and-mouth disease virus	14/235 . . from Bordetella (G)
14/095	. . . . . Rhinovirus	14/24 . . from Enterobacteriaceae (F), e.g. Citrobacter, Serratia, Proteus, Providencia, Morganella, Yersinia
14/10	. . . . . Hepatitis A virus	14/245 . . . Escherichia (G)
14/105	. . . . . Poliovirus	14/25 . . . Shigella (G)
14/11	. . . Orthomyxoviridae, e.g. influenza virus	14/255 . . . Salmonella (G)
14/115	. . . Paramyxoviridae, e.g. parainfluenza virus	14/26 . . . Klebsiella (G)
14/12	. . . . . Mumps virus; Measles virus	14/265 . . . Enterobacter (G)
14/125	. . . . . Newcastle disease virus	14/27 . . . Erwinia (G)
14/13	. . . . . Canine distemper virus	14/275 . . . Hafnia (G)
14/135	. . . . . Respiratory syncytial virus	14/28 . . from Vibrionaceae (F)
14/14	. . . Reoviridae, e.g. rotavirus, bluetongue virus, Colorado tick fever virus	14/285 . . from Pasteurellaceae (F), e.g. Haemophilus influenza
14/145	. . . Rhabdoviridae, e.g. rabies virus, Duvénhage virus, Mokda virus, vesicular stomatitis virus	14/29 . . from Richettsiales (o)
14/15	. . . Retroviridae, e.g. bovine leukaemia virus, feline leukaemia virus human T-cell leukaemia-lymphoma virus	14/295 . . from Chlamydiales (o)
14/155	. . . . . Lentiviridae, e.g. visna-maedi virus, equine infectious virus, FIV, SIV	14/30 . . from Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]
14/16	. . . . . HIV-1; {HIV-2}	14/305 . . from Micrococcaceae (F)
14/161	. . . . . {gag-pol, e.g. p55, p24/25, p17/18, p7, p6, p66/68, p51/52, p31/34, p32, p40}	14/31 . . . from Staphylococcus (G)
14/162	. . . . . {env, e.g. gp160, gp110/120, gp41, V3, peptid T, CD4-Binding site}	14/315 . . from Streptococcus (G), e.g. Enterococci
14/163	. . . . . {Regulatory proteins, e.g. tat, nef, rev, vif, vpu, vpr, vpt, vpx}	14/3153 . . . {Streptokinase}
14/165	. . . Coronaviridae, e.g. avian infectious bronchitis virus	14/3156 . . . {from Streptococcus pneumoniae (Pneumococcus) (Streptokinase C07K 14/3153)}
14/17	. . . . . Porcine transmissible gastroenteritis virus	14/32 . . from Bacillus (G)
14/175	. . . Bunyaviridae, e.g. California encephalitis virus, Rift valley fever virus, Hantaan virus	14/325 . . . Bacillus thuringiensis crystal protein (delta-endotoxin)
14/18	. . . Togaviridae; {Flaviviridae}	14/33 . . from Clostridium (G)
14/1808	. . . . . {Alphaviruses or Group A arboviruses, e.g. sindbis, VEE, EEE, WEE, semliki forest virus (rubella virus C07K 14/19)}	14/335 . . from Lactobacillus (G)
14/1816	. . . . . {Flaviviridae, e.g. pestivirus, mucosal disease virus, bovine viral diarrhoea virus, classical swine fever virus (hog cholera virus), border disease virus}	14/34 . . from Corynebacterium (G)
14/1825	. . . . . {Flaviviruses or Group B arboviruses, e.g. yellow fever virus, japanese encephalitis, tick-borne encephalitis, dengue}	14/345 . . from Brevibacterium (G)
14/1833	. . . . . {Hepatitis C; Hepatitis NANB}	14/35 . . from Mycobacteriaceae (F)
14/1841	. . . . . {Hepatitis G; Hepatitis NANBNCNDNE}	14/355 . . from Nocardia (G)
14/19	. . . . . Rubella virus	14/36 . . from Actinomyces; from Streptomyces (G)
14/195	. from bacteria	14/365 . . from Actinoplanes (G)
	NOTE	14/37 . from fungi
	In groups C07K 14/20 - C07K 14/365, where appropriate, after the bacteria terminology, the	14/375 . . from Basidiomycetes
		14/38 . . from Aspergillus
		14/385 . . from Penicillium
		14/39 . . from yeasts
		14/395 . . . from Saccharomyces
		14/40 . . . from Candida
		14/405 . from algae
		14/41 . from lichens
		14/415 . from plants
		14/42 . . Lectins, e.g. concanavalin, phytohaemagglutinin
		14/425 . . Zeins
		14/43 . . {Sweetening agents, e.g.} thaumatin, {monellin}

14/435	. from animals; from humans	14/4727	. . . . . {Mucins, e.g. human intestinal mucin}
14/43504	. . {from invertebrates}	14/4728	. . . . . {Calcium binding proteins, e.g. calmodulin}
14/43509	. . . {from crustaceans}	14/473	. . . . . {alpha-Glycoproteins}
14/43513	. . . {from arachnidae}	14/4731	. . . . . {Recognins, e.g. malignin}
14/43518	. . . . {from spiders}	14/4732	. . . . . {Casein (in foodstuffs A23J)}
14/43522	. . . . {from scorpions}	14/4733	. . . . . {Acute pancreatitis-associated protein}
14/43527	. . . . {from ticks}	14/4735	. . . . . {Villin}
14/43531	. . . . {from mites}	14/4736	. . . . . {Retinoblastoma protein}
14/43536	. . . {from worms}	14/4737	. . . . . {C-reactive protein}
14/4354	. . . . {from nematodes}	14/4738	. . . . . {Cell cycle regulated proteins, e.g. cyclin, CDC, INK-CCR (cell cycle dependent kinases C12N 9/12)}
14/43545	. . . . . {from Caenorhabditis}	14/474	. . . . . {Pancreatic thread protein; Reg protein}
14/4355	. . . . {from cestodes}	14/4741	. . . . . {Keratin; Cytokeratin}
14/43554	. . . . . {from Taenia}	14/4742	. . . . . {Bactericidal/Permeability-increasing protein [BPI]}
14/43559	. . . . {from trematodes}	14/4743	. . . . . {Insulin-like growth factor binding protein}
14/43563	. . . {from insects}	14/4745	. . . . . {Cancer-associated SCM-recognition factor, CRISPP}
14/43568	. . . . {from wasps}	14/4746	. . . . . {p53}
14/43572	. . . . {from bees}	14/4747	. . . . . {Apoptosis related proteins}
14/43577	. . . . {from flies}	14/4748	. . . . . {Tumour specific antigens; Tumour rejection antigen precursors [TRAP], e.g. MAGE}
14/43581	. . . . . {from Drosophila}	14/475	. . Growth factors; Growth regulators
14/43586	. . . . {from silkworms}	14/4753	. . . {Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II}
14/4359	. . . . {from fleas}	14/4756	. . . {Neuregulins, i.e. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor}
14/43595	. . . {from coelenteratae, e.g. medusae}	14/48	. . . Nerve growth factor [NGF]
14/44	. . from protozoa	14/485	. . . Epidermal growth factor [EGF] (urogastrone)
14/445	. . . Plasmodium	14/49	. . . Platelet-derived growth factor [PDGF]
14/45	. . . Toxoplasma	14/495	. . . Transforming growth factor [TGF]
14/455	. . . Eimeria	14/50	. . . Fibroblast growth factors [FGF]
14/46	. . from vertebrates	14/501	. . . . {acidic FGF [aFGF]}
14/461	. . . {from fish}	14/503	. . . . {basic FGF [bFGF]}
14/463	. . . {from amphibians}	14/505	. . . Erythropoietin [EPO]
14/465	. . . from birds	14/51	. . . Bone morphogenetic factor; Osteogenins; Osteogenic factor; Bone-inducing factor
14/47	. . . from mammals	14/515	. . . Angiogenesis factors; Angiogenin
14/4701	. . . . {not used}	14/52	. . Cytokines; Lymphokines; Interferons
14/4702	. . . . . {Regulators; Modulating activity}	14/521	. . . {Chemokines}
14/4703	. . . . . {Inhibitors; Suppressors}	14/522	. . . . {Alpha-chemokines, e.g. NAP-2, ENA-78, GRO-alpha/MGSA/NAP-3, GRO-beta/MIP-2alpha, GRO-gamma/MIP-2beta, IP-10, GCP-2, MIG, PBSF, PF-4, KC}
14/4705	. . . . . {stimulating, promoting or activating activity}	14/523	. . . . {Beta-chemokines, e.g. RANTES, I-309/TCA-3, MIP-1alpha, MIP-1beta/ACT-2/LD78/SCIF, MCP-1/MCAF, MCP-2, MCP-3, LDCF-1, LDCF-2}
14/4706	. . . . . {Guanosine triphosphatase activating protein, GAP}	14/524	. . . {Thrombopoietin, i.e. C-MPL ligand}
14/4707	. . . . . {Muscular dystrophy}	14/525	. . . Tumor necrosis factor [TNF]
14/4708	. . . . . {Duchenne dystrophy}	14/5255	. . . . {Lymphotoxin [LT]}
14/471	. . . . . {Myotonic dystrophy}	14/53	. . . Colony-stimulating factor [CSF]
14/4711	. . . . . {Alzheimer's disease; Amyloid plaque core protein}	14/535	. . . . Granulocyte CSF; Granulocyte-macrophage CSF
14/4712	. . . . . {Cystic fibrosis}	14/54	. . . Interleukins [IL]
14/4713	. . . . . {Autoimmune diseases, e.g. Insulin-dependent diabetes mellitus, multiple sclerosis, rheumatoid arthritis, systemic lupus erythematosus; Autoantigens}	14/5403	. . . . {IL-3}
14/4715	. . . . . {Pregnancy proteins, e.g. placenta proteins, alpha-feto-protein, pregnancy specific beta glycoprotein}	14/5406	. . . . {IL-4}
14/4716	. . . . . {Muscle proteins, e.g. myosin, actin}	14/5409	. . . . {IL-5}
14/4717	. . . . . {Plasma globulins, lactoglobulin}		
14/4718	. . . . . {Cytokine-induced proteins}		
14/472	. . . . . {Complement proteins, e.g. anaphylatoxin, C3a, C5a}		
14/4721	. . . . . {Lipocortins}		
14/4722	. . . . . {G-proteins}		
14/4723	. . . . . {Cationic antimicrobial peptides, e.g. defensins}		
14/4725	. . . . . {Proteoglycans, e.g. aggrecan}		
14/4726	. . . . . {Lectins}		

14/5412	. . . . {IL-6}	14/65	. . . Insulin-like growth factors (Somatomedins), e.g. IGF-1, IGF-2
14/5415	. . . . {Leukaemia inhibitory factor [LIF]}	14/655	. . . Somatostatins
14/5418	. . . . {IL-7}	14/6555	. . . . {at least 1 amino acid in D-form}
14/5421	. . . . {IL-8}	14/66	. . . Thymopoietins
14/5425	. . . . {IL-9}	14/662	. . . . {at least 1 amino acid in D-form}
14/5428	. . . . {IL-10}	14/665	. . derived from pro-opiomelanocortin, pro- enkephalin or pro-dynorphin
14/5431	. . . . {IL-11}	14/67	. . . Lipotropins, e.g. beta, gamma lipotropin
14/5434	. . . . {IL-12}	14/672	. . . . {with at least 1 amino acid in D-form}
14/5437	. . . . {IL-13}	14/675	. . . beta-Endorphins
14/544	. . . . {IL-14}	14/6755	. . . . {with at least 1 amino acid in D-form}
14/5443	. . . . {IL-15}	14/68	. . . Melanocyte-stimulating hormone [MSH]
14/5446	. . . . {IL-16}	14/685	. . . . alpha-Melanotropin
14/545	. . . . IL-1	14/69	. . . . beta-Melanotropin
14/55	. . . . IL-2	14/695	. . . Corticotropin [ACTH]
14/555	. . . Interferons [IFN]	14/6955	. . . . {with at least 1 amino acid in D-form}
14/56	. . . . IFN-alpha	14/70	. . . Enkephalins
14/565	. . . . IFN-beta	14/702	. . . . {with at least 1 amino acid in D-form}
14/57	. . . . IFN-gamma	14/705	. . Receptors; Cell surface antigens; Cell surface determinants {(tumour specific antigens C07K 14/4748)}
14/575	. . Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin C07K 14/665 , e.g. corticotropin C07K 14/695)	14/70503	. . . {Immunoglobulin superfamily}
14/57509	. . . {Corticotropin releasing factor [CRF] (Urotensin)}	14/70507	. . . . {CD2}
14/57518	. . . {Placental lactogen; Chorionic somatomammotropin}	14/7051	. . . . {T-cell receptor (TcR)-CD3 complex}
14/57527	. . . {Calcitonin gene related peptide}	14/70514	. . . . {CD4}
14/57536	. . . {Endothelin, vasoactive intestinal contractor [VIC]}	14/70517	. . . . {CD8}
14/57545	. . . {Neuropeptide Y}	14/70521	. . . . {CD28, CD152}
14/57554	. . . {Prolactin}	14/70525	. . . . {ICAM molecules, e.g. CD50, CD54, CD102}
14/57563	. . . {Vasoactive intestinal peptide [VIP]; Related peptides}	14/70528	. . . . {CD58}
14/57572	. . . {Gastrin releasing peptide (bombesin C07K 7/086)}	14/70532	. . . . {B7 molecules, e.g. CD80, CD86}
14/57581	. . . {Thymosin; Related peptides}	14/70535	. . . . {Fc-receptors, e.g. CD16, CD32, CD64 (CD2314/705F)}
14/5759	. . . {Products of obesity genes, e.g. leptin, obese (OB), tub, fat}	14/70539	. . . . {MHC-molecules, e.g. HLA-molecules}
14/58	. . . Atrial natriuretic factor complex; Atriopeptin; Atrial natriuretic peptide [ANP]; Cardionatrin; Cardiodilatin	14/70542	. . . . {CD106}
14/582	. . . . {at least 1 amino acid in D-form}	14/70546	. . . {Integrin superfamily}
14/585	. . . Calcitonins	14/7055	. . . . {Integrin beta1-subunit-containing molecules, e.g. CD29, CD49}
14/5855	. . . . {at least 1 amino acid in D-form}	14/70553	. . . . {Integrin beta2-subunit-containing molecules, e.g. CD11, CD18}
14/59	. . . Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]	14/70557	. . . . {Integrin beta3-subunit-containing molecules, e.g. CD41, CD51, CD61}
14/592	. . . . {at least 1 amino acid in D-form}	14/7056	. . . {Lectin superfamily, e.g. CD23, CD72}
14/595	. . . Gastrins; Cholecystokinins [CCK]	14/70564	. . . . {Selectins, e.g. CD62}
14/5955	. . . . {at least 1 amino acid in D-form}	14/70567	. . . {Nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, nuclear orphan receptors}
14/60	. . . Growth-hormone releasing factors (GH-RF) (Somatoliberin)	14/70571	. . . {for neuromediators, e.g. serotonin receptor, dopamine receptor}
14/605	. . . Glucagons	14/70575	. . . {NGF/TNF-superfamily, e.g. CD70, CD95L, CD153, CD154 (NGF C07K 14/48 , TNF C07K 14/525)}
14/61	. . . Growth hormones [GH] (Somatotropin)	14/70578	. . . {NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30, CD40, CD95 (NGF-receptor C07K 14/71 , TNF-receptor C07K 14/7151)}
14/615	. . . . Extraction from natural sources	14/70582	. . . {CD71}
14/62	. . . Insulins	14/70585	. . . {CD44}
14/622	. . . . {at least 1 amino acid in D-form}	14/70589	. . . {CD45}
14/625	. . . . extraction from natural sources	14/70592	. . . {CD52}
14/63	. . . Motilins	14/70596	. . . {Molecules with a "CD"-designation not provided for elsewhere}
14/635	. . . Parathyroid hormone (parathormone); Parathyroid hormone-related peptides	14/71	. . . for growth factors; for growth regulators
14/64	. . . Relaxins	14/715	. . . for cytokines; for lymphokines; for interferons
14/645	. . . Secretins		

- 14/7151 {for tumor necrosis factor [TNF], for lymphotoxin [LT]}
- 14/7153 {for colony-stimulating factors [CSF]}
- 14/7155 {for interleukins [IL]}
- 14/7156 {for interferons [IFN]}
- 14/7158 {for chemokines}
- 14/72 . . . for hormones {(for neuromediators [C07K 14/70571](#))}
- 14/721 {Steroid/thyroid hormone superfamily, e.g. GR, EcR, androgen receptor, oestrogen receptor}
- 14/723 {G protein coupled receptor, e.g. TSHR-thyrotropin-receptor, LH/hCG receptor, FSH receptor}
- 14/745 . . Blood coagulation or fibrinolysis factors
- 14/7455 . . . {Thrombomodulin}
- 14/75 . . . Fibrinogen
- 14/755 . . . Factors VIII, {e.g. factor VIII C (AHF), factor VIII Ag (VWF)}
- 14/76 . . Albumins
- 14/765 . . . Serum albumin, e.g. HSA
- 14/77 . . . Ovalbumin
- 14/775 . . Apolipopptides
- 14/78 . . Connective tissue peptides, e.g. collagen, elastin, laminin, fibronectin, vitronectin, cold insoluble globulin [CIG]
- 14/785 . . Alveolar surfactant peptides; Pulmonary surfactant peptides
- 14/79 . . Transferrins, e.g. lactoferrins, ovotransferrins
- 14/795 . Porphyrin- or corrin-ring-containing peptides
- 14/80 . . Cytochromes
- 14/805 . . Haemoglobins; Myoglobins
- 14/81 . . Protease inhibitors
- 14/8103 . . {Exopeptidase (E.C. 3.4.11-19) inhibitors}
- 14/8107 . . {Endopeptidase (E.C. 3.4.21-99) inhibitors}
- 14/811 . . . {Serine protease (E.C. 3.4.21) inhibitors}
- 14/8114 {Kunitz type inhibitors}
- 14/8117 {Bovine/basic pancreatic trypsin inhibitor (BPTI, aprotinin)}
- 14/8121 {Serpins}
- 14/8125 {Alpha-1-antitrypsin}
- 14/8128 {Antithrombin III}
- 14/8132 {Plasminogen activator inhibitors}
- 14/8135 {Kazal type inhibitors, e.g. pancreatic secretory inhibitor, ovomucoid}
- 14/8139 . . . {Cysteine protease (E.C. 3.4.22) inhibitors, e.g. cystatin}
- 14/8142 . . . {Aspartate protease (E.C. 3.4.23) inhibitors, e.g. HIV protease inhibitors}
- 14/8146 . . . {Metalloprotease (E.C. 3.4.24) inhibitors, e.g. tissue inhibitor of metallo proteinase, TIMP}
- 14/815 . . from leeches, e.g. hirudin, eglin
- 14/82 . . Translation products from oncogenes
- 14/825 . . Metallothioneins
- 16/00 Immunoglobulins [IGs], e.g. monoclonal or polyclonal antibodies {(antibodies with enzymatic activity, e.g. abzymes [C12N 9/0002](#))}**
- NOTES**
1. Documents characterised by the technical aspects of the construction of an antibody or fragment thereof, should be classified
- in [C07K 16/00](#) - [C07K 16/065](#) or [C07K 16/46](#) - [C07K 16/468](#)
2. Documents not characterised by the technical aspects of the construction of an antibody or fragment thereof, should be classified only according to their specificity, where necessary accompanied by one or more appropriate indexing codes
- 16/005 . {constructed by phage libraries}
- 16/02 . from eggs
- 16/04 . from milk
- 16/06 . from serum
- 16/065 . . {Purification, fragmentation}
- 16/08 . against material from viruses
- 16/081 . . {from DNA viruses}
- 16/082 . . . {Hepadnaviridae, e.g. hepatitis B virus}
- 16/084 . . . {Papovaviridae, e.g. papillomavirus, polyomavirus, SV40, BK virus, JC virus}
- 16/085 . . . {Herpetoviridae, e.g. pseudorabies virus, Epstein-Barr virus}
- 16/087 {Herpes simplex virus}
- 16/088 {Varicella-zoster virus, e.g. cytomegalovirus}
- 16/10 . . from RNA viruses, {e.g. hepatitis E virus}
- 16/1009 . . . {Picornaviridae, e.g. hepatitis A virus}
- 16/1018 . . . {Orthomyxoviridae, e.g. influenza virus}
- 16/1027 . . . {Paramyxoviridae, e.g. respiratory syncytial virus}
- 16/1036 . . . {Retroviridae, e.g. leukemia viruses}
- 16/1045 {Lentiviridae, e.g. HIV, FIV, SIV}
- 16/1054 {gag-pol, e.g. p17, p24}
- 16/1063 {env, e.g. gp41, gp110/120, gp160, V3, PND, CD4 binding site}
- 16/1072 {Regulatory proteins, e.g. tat, rev, vpt}
- 16/1081 . . . {Togaviridae, e.g. flavivirus, rubella virus, hog cholera virus}
- 16/109 {Hepatitis C virus; Hepatitis G virus}
- 16/12 . against material from bacteria
- 16/1203 . . {from Gram-negative bacteria}
- 16/1207 . . . {from Spirochaetales (O), e.g. Treponema, Leptospira}
- 16/121 . . . {from Helicobacter (Campylobacter) (G)}
- 16/1214 . . . {from Pseudomonadaceae (F)}
- 16/1217 . . . {from Neisseriaceae (F), e.g. Acinetobacter}
- 16/1221 . . . {from Brucella (G)}
- 16/1225 . . . {from Bordetella (G)}
- 16/1228 . . . {from Enterobacteriaceae (F), e.g. Citrobacter, Serratia, Proteus, Providencia, Morganella, Yersinia}
- 16/1232 {from Escherichia (G)}
- 16/1235 {from Salmonella (G)}
- 16/1239 . . . {from Vibrionaceae (G)}
- 16/1242 . . . {from Pasteurellaceae (F), e.g. Haemophilus influenza}
- 16/1246 . . . {from Rickettsiales (O)}
- 16/125 . . . {from Chlamydiales (O)}
- 16/1253 . . . {from Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]}
- 16/1257 . . . {from Bacteridaceae (F)}
- 16/126 . . . {from Legionella (G)}
- 16/1264 . . . {from Rhizobiaceae (F)}
- 16/1267 . . {from Gram-positive bacteria}

- 16/1271 . . . {from Micrococcaceae (F), e.g. Staphylococcus}
- 16/1275 . . . {from Streptococcus (G)}
- 16/1278 . . . {from Bacillus (G)}
- 16/1282 . . . {from Clostridium (G)}
- 16/1285 . . . {from Corynebacterium (G)}
- 16/1289 . . . {from Mycobacteriaceae (F)}
- 16/1292 . . . {from Actinomyces; from Streptomyces (G)}
- 16/1296 . . . {from Listeria}
- 16/14 . against material from fungi, algae or lichens
- 16/16 . against material from plants
- 16/18 . against material from animals or humans
- 16/20 . . from protozoa
- 16/205 . . . {Plasmodium}
- 16/22 . . against growth factors; {against growth regulators}
- 16/24 . . against cytokines, lymphokines or interferons
- 16/241 . . . {Tumor Necrosis Factors}
- 16/242 {Lymphotoxin [LT]}
- 16/243 . . . {Colony Stimulating Factors}
- 16/244 . . . {Interleukins [IL]}
- 16/245 {IL-1}
- 16/246 {IL-2}
- 16/247 {IL-4}
- 16/248 {IL-6}
- 16/249 . . . {Interferons}
- 16/26 . . against hormones; {against hormone releasing or inhibiting factors}
- 16/28 . . against receptors, cell surface antigens or cell surface determinants
- 16/2803 . . . {against the immunoglobulin superfamily}
- 16/2806 {against CD2}
- 16/2809 {against the T-cell receptor (TcR)-CD3 complex}
- 16/2812 {against CD4}
- 16/2815 {against CD8}
- 16/2818 {against CD28 or CD152}
- 16/2821 {against ICAM molecules, e.g. CD50, CD54, CD102}
- 16/2824 {against CD58}
- 16/2827 {against B7 molecules, e.g. CD80, CD86}
- 16/283 {against Fc-receptors, e.g. CD16, CD32, CD64 ([C07K 16/2851](#))}
- 16/2833 {against MHC-molecules, e.g. HLA-molecules}
- 16/2836 {against CD106}
- 16/2839 . . . {against the integrin superfamily}
- 16/2842 {against integrin beta1-subunit-containing molecules, e.g. CD29, CD49}
- 16/2845 {against integrin beta2-subunit-containing molecules, e.g. CD11, CD18}
- 16/2848 {against integrin beta3-subunit-containing molecules, e.g. CD41, CD51, CD61}
- 16/2851 . . . {against the lectin superfamily, e.g. CD23, CD72}
- 16/2854 {against selectins, e.g. CD62}
- 16/2857 . . . {against nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, orphan receptor}
- 16/286 . . . {against neuromediator receptors, e.g. serotonin receptor, dopamine receptor}
- 16/2863 . . . {against receptors for growth factors, growth regulators}
- 16/2866 . . . {against receptors for cytokines, lymphokines, interferons}
- 16/2869 . . . {against hormone receptors ([for antibodies against neuromediator receptors C07K 16/286](#))}
- 16/2872 . . . {against prion molecules, e.g. CD230}
- 16/2875 . . . {against the NGF/TNF superfamily, e.g. CD70, CD95L, CD153, CD154 ([against NGF C07K 16/22](#), [against TNF C07K 16/241](#))}
- 16/2878 . . . {against the NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30, CD40, CD95}
- 16/2881 . . . {against CD71}
- 16/2884 . . . {against CD44}
- 16/2887 . . . {against CD20}
- 16/289 . . . {against CD45}
- 16/2893 . . . {against CD52}
- 16/2896 . . . {against molecules with a "CD"-designation, not provided for elsewhere}
- 16/30 . . . from tumour cells
- 16/3007 {Carcino-embryonic Antigens}
- 16/3015 {Breast}
- 16/3023 {Lung}
- 16/303 {Liver or Pancreas}
- 16/3038 {Kidney, bladder}
- 16/3046 {Stomach, Intestines}
- 16/3053 {Skin, nerves, brain}
- 16/3061 {Blood cells}
- 16/3069 {Reproductive system, e.g. ovaria, uterus, testes, prostate}
- 16/3076 {against structure-related tumour-associated moieties}
- 16/3084 {against tumour-associated gangliosides}
- 16/3092 {against tumour-associated mucins}
- 16/32 . . against translation products of oncogenes
- 16/34 . . against blood group antigens
- 16/36 . . against blood coagulation factors
- 16/38 . against protease inhibitors of peptide structure
- 16/40 . against enzymes
- 16/42 . against immunoglobulins
- 16/4208 . . {against an idiotypic determinant on Ig}
- 16/4216 . . . {against anti-viral Ig}
- 16/4225 {against anti-HIV Ig}
- 16/4233 . . . {against anti-bacterial Ig}
- 16/4241 . . . {against anti-human or anti-animal Ig}
- 16/425 {against anti-protozoal Ig}
- 16/4258 {against anti-receptor Ig}
- 16/4266 {against anti-tumor receptor Ig}
- 16/4275 {against anti-CD4 Ig}
- 16/4283 . . {against an allotypic or isotypic determinant on Ig}
- 16/4291 . . . {against IgE}
- 16/44 . against material not provided for elsewhere, {e.g. haptens, metals, DNA, RNA, amino acids}
- 16/46 . Hybrid immunoglobulins ([hybrids of an immunoglobulin with a peptide not being an immunoglobulin C07K 19/00](#))
- 16/461 . . {Igs containing Ig-regions, -domains or -residues form different species}
- 16/462 . . . {Igs containing a variable region (Fv) from one specie and a constant region (Fc) from another}
- 16/464 . . . {Igs containing CDR-residues from one specie grafted between FR-residues from another}
- 16/465 {with additional modified FR-residues}

16/467	. . . {Igs with modifications in the FR-residues only}	2317/565	. . . Complementarity determining region [CDR]
16/468	. . {Immunoglobulins having two or more different antigen binding sites, e.g. multifunctional antibodies}	2317/567	. . . Framework region [FR]
17/00	Carrier-bound or immobilised peptides (carrier-bound or immobilised enzymes C12N 11/00); Preparation thereof	2317/569	. . . Single domain, e.g. dAb, sdAb, VHH, VNAR or nanobody®
17/02	. Peptides being immobilised on, or in, an organic carrier	2317/60	. characterized by non-natural combinations of immunoglobulin fragments
17/04	. . entrapped within the carrier, e.g. gel, hollow fibre	2317/62	. . comprising only variable region components
17/06	. . attached to the carrier via a bridging agent	2317/622	. . . Single chain antibody (scFv)
17/08	. . the carrier being a synthetic polymer	2317/624	. . . Disulfide-stabilized antibody (dsFv)
17/10	. . the carrier being a carbohydrate	2317/626	. . . Diabody or triabody
17/12	. . . Cellulose or derivatives thereof	2317/64	. . comprising a combination of variable region and constant region components
17/14	. Peptides being immobilised on, or in, an inorganic carrier	2317/66	. . comprising a swap of domains, e.g. CH3-CH2, VH-CL or VL-CH1
19/00	Hybrid peptides	2317/70	. characterized by effect upon binding to a cell or to an antigen
2299/00	Coordinates from 3D structures of peptides, e.g. proteins or enzymes	2317/71	. . Decreased effector function due to an Fc-modification
2317/00	Immunoglobulins specific features	2317/72	. . Increased effector function due to an Fc-modification
2317/10	. characterized by their source of isolation or production	2317/73	. . Inducing cell death, e.g. apoptosis, necrosis or inhibition of cell proliferation
2317/11	. . isolated from eggs	2317/732	. . . Antibody-dependent cellular cytotoxicity [ADCC]
2317/12	. . isolated from milk	2317/734	. . . Complement-dependent cytotoxicity [CDC]
2317/13	. . isolated from plants	2317/74	. . Inducing cell proliferation
2317/14	. . Specific host cells or culture conditions, e.g. components, pH or temperature	2317/75	. . Agonist effect on antigen
2317/20	. characterized by taxonomic origin	2317/76	. . Antagonist effect on antigen, e.g. neutralization or inhibition of binding
2317/21	. . from primates, e.g. man	2317/77	. . Internalization into the cell
2317/22	. . from camelids, e.g. camel, llama or dromedary	2317/80	. remaining in the (producing) cell, i.e. intracellular antibodies or intrabodies
2317/23	. . from birds	2317/81	. . functional in the endoplasmatic reticulum [ER] or the Golgi apparatus
2317/24	. . containing regions, domains or residues from different species, e.g. chimeric, humanized or veneered	2317/82	. . functional in the cytoplasm, the inner aspect of the cell membrane, the nucleus or the mitochondria
2317/30	. characterized by aspects of specificity or valency	2317/90	. characterized by (pharmaco)kinetic aspects or by stability of the immunoglobulin
2317/31	. . multispecific	2317/92	. . Affinity (KD), association rate (Ka), dissociation rate (Kd) or EC50 value
2317/32	. . specific for a neo-epitope on a complex, e.g. antibody-antigen or ligand-receptor	2317/94	. . Stability, e.g. half-life, pH, temperature or enzyme-resistance
2317/33	. . Crossreactivity, e.g. for species or epitope, or lack of said crossreactivity	2318/00	Antibody mimetics or scaffolds
2317/34	. . Identification of a linear epitope shorter than 20 amino acid residues or of a conformational epitope defined by amino acid residues	2318/10	. Immunoglobulin or domain(s) thereof as scaffolds for inserted non-Ig peptide sequences, e.g. for vaccination purposes
2317/35	. . Valency	2318/20	. Antigen-binding scaffold molecules wherein the scaffold is not an immunoglobulin variable region or antibody mimetics
2317/40	. characterized by post-translational modification	2319/00	Fusion polypeptide
2317/41	. . Glycosylation, sialylation, or fucosylation	2319/01	. containing a localisation/targetting motif
2317/50	. characterized by immunoglobulin fragments	2319/02	. . containing a signal sequence
2317/51	. . Complete heavy chain or Fd fragment, i.e. VH + CH1	2319/03	. . containing a transmembrane segment
2317/515	. . Complete light chain, i.e. VL + CL	2319/033	. . containing a motif for targeting to the internal surface of the plasma membrane, e.g. containing a myristoylation motif
2317/52	. . Constant or Fc region; Isotype	2319/034	. . containing a motif for targeting to the periplasmic space of Gram negative bacteria as a soluble protein, i.e. signal sequence should be cleaved
2317/522	. . . CH1 domain		
2317/524	. . . CH2 domain		
2317/526	. . . CH3 domain		
2317/528	. . . CH4 domain		
2317/53	. . . Hinge		
2317/54	. . F(ab')2		
2317/55	. . Fab or Fab'		
2317/56	. . variable (Fv) region, i.e. VH and/or VL		

- 2319/035 . . containing a signal for targeting to the external surface of a cell, e.g. to the outer membrane of Gram negative bacteria, GPI- anchored eukaryote proteins
- 2319/036 . . targeting to the medium outside of the cell, e.g. type III secretion
- 2319/04 . . containing an ER retention signal such as a C-terminal HDEL motif
- 2319/05 . . containing a GOLGI retention signal
- 2319/055 . . containing a signal for localisation to secretory granules (for exocytosis)
- 2319/06 . . containing a lysosomal/endosomal localisation signal
- 2319/07 . . containing a mitochondrial localisation signal
- 2319/08 . . containing a chloroplast localisation signal
- 2319/09 . . containing a nuclear localisation signal
- 2319/095 . . containing a nuclear export signal
- 2319/10 . . containing a tag for extracellular membrane crossing, e.g. TAT or VP22
- 2319/20 . . containing a tag with affinity for a non-protein ligand
- 2319/21 . . containing a His-tag
- 2319/22 . . containing a Strep-tag
- 2319/23 . . containing a GST-tag
- 2319/24 . . containing a MBP (maltose binding protein)-tag
- 2319/30 . . Non-immunoglobulin-derived peptide or protein having an immunoglobulin constant or Fc region, or a fragment thereof, attached thereto
- 2319/31 . . fusions, other than Fc, for prolonged plasma life, e.g. albumin
- 2319/32 . . fusions with soluble part of a cell surface receptor, "decoy receptors"
- 2319/33 . . fusions for targeting to specific cell types, e.g. tissue specific targeting, targeting of a bacterial subspecies
- 2319/35 . . containing a fusion for enhanced stability/folding during expression, e.g. fusions with chaperones or thioredoxin
- 2319/40 . . containing a tag for immunodetection, or an epitope for immunisation
- 2319/41 . . containing a Myc-tag
- 2319/42 . . containing a HA(hemagglutinin)-tag
- 2319/43 . . containing a FLAG-tag
- 2319/50 . . containing protease site
- 2319/55 . . containing a fusion with a toxin, e.g. diphtheria toxin
- 2319/60 . . containing spectroscopic/fluorescent detection, e.g. green fluorescent protein [GFP]
- 2319/61 . . containing an enzyme fusion for detection (lacZ, luciferase)
- 2319/70 . . containing domain for protein-protein interaction
- 2319/705 . . containing a protein-A fusion
- 2319/71 . . containing domain for transcriptional activation, e.g. VP16
- 2319/715 . . . containing a domain for ligand dependent transcriptional activation, e.g. containing a steroid receptor domain
- 2319/72 . . containing SH2 domain
- 2319/73 . . containing coiled-coiled motif (leucine zippers)
- 2319/735 . . containing a domain for self-assembly, e.g. a viral coat protein (includes phage display)
- 2319/74 . . containing a fusion for binding to a cell surface receptor
- 2319/75 . . . containing a fusion for activation of a cell surface receptor, e.g. thrombopoietin, NPY and other peptide hormones
- 2319/80 . . containing a DNA binding domain, e.g. LacI or Tet-repressor
- 2319/81 . . containing a Zn-finger domain for DNA binding
- 2319/85 . . containing an RNA binding domain
- 2319/90 . . containing a motif for post-translational modification
- 2319/91 . . containing a motif for glycosylation
- 2319/912 . . . containing a GPI (phosphatidyl-inositol glycane) anchor
- 2319/915 . . containing a motif for acylation
- 2319/92 . . containing an intein ("protein splicing") domain
- 2319/95 . . containing a motif/fusion for degradation (ubiquitin fusions, PEST sequence)