CPC - 2020.02

COOPERATIVE PATENT CLASSIFICATION

C CHEMISTRY; METALLURGY

(NOTES omitted)

CHEMISTRY

C07 ORGANIC CHEMISTRY

(NOTES omitted)

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

1. 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:
     i. “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;
     ii. “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-diamino-butanolic acid. Thus, cyclic compounds in which at least one link in the ring is a non-peptide link are considered as “linear peptides”;
     iii. “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:
       a. “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-OCH2COH 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;
       b. “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.

2. 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.

3. Peptides prepared by chemical processes and having an amino acid sequence derived from naturally occurring peptides are classified with the natural one.

4. 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.

5. 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.
WARNINGS

1. The following IPC groups are not in the CPC scheme. The subject matter for these IPC groups is classified in the following CPC groups:

- C07K 5/023 covered by C07K 5/020
- C07K 5/027 covered by C07K 5/020
- C07K 5/03 covered by C07K 5/020
- C07K 5/033 covered by C07K 5/021
- C07K 5/037 covered by C07K 5/021
- C07K 5/062 covered by C07K 5/060
- C07K 5/065 covered by C07K 5/060
- C07K 5/068 covered by C07K 5/060
- C07K 5/075 covered by C07K 5/061
- C07K 5/078 covered by C07K 5/061
- C07K 5/083 covered by C07K 5/080
- C07K 5/087 covered by C07K 5/081
- C07K 5/09 covered by C07K 5/081
- C07K 5/093 covered by C07K 5/081
- C07K 5/097 covered by C07K 5/081
- C07K 5/103 covered by C07K 5/100
- C07K 5/107 covered by C07K 5/100
- C07K 5/11 covered by C07K 5/101
- C07K 5/113 covered by C07K 5/101
- C07K 5/117 covered by C07K 5/101
- C07K 14/185 covered by C07K 14/181
- C07K 14/1725 covered by C07K 14/170
- C07K 14/73 covered by C07K 14/705
- C07K 14/735 covered by C07K 14/705
- C07K 14/74 covered by C07K 14/705

2. In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

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 denaturating or stabilising agents
1/12 by hydrolysis [i.e. solvolysis in general]
1/122 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
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 form.

NOTE

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

NOTE

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 only acyclic carbon atoms in the sidechain, e.g. Ala aromatic;

cycloaliphatic: amino acids having a bicyclic ring in the sidechain, e.g. Phe heterocyclic: amino acids wherein the sidechain contains or is part of a heterocyclic ring, e.g. Pro; side chain: the R radical in the optionally functionalised amino acid R-CH(NH2)C02H)

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 only acyclic carbon atoms in the sidechain, e.g. Ala aromatic;

cycloaliphatic: amino acids having a bicyclic ring in the sidechain, e.g. Phe heterocyclic: amino acids wherein the sidechain contains or is part of a heterocyclic ring, e.g. Pro; side chain: the R radical in the optionally functionalised amino acid R-CH(NH2)C02H)

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

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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;

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C07K

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

NOTE

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

5/123 [Tripeptides]
5/126 [Tetrapeptides]

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 14/5752)]
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-butanolic acid
7/58 . . . . Bacitracins; Related peptides
7/60 . . . the cyclisation occurring through the 4-amino group of 2,4-diamino-butanolic 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 271000-C12N 279500

WARNING
1. From March 15, 2012 groups C07K 14/001 - 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 . . . Herpesviridae, 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. Anjetzky virus]

14/035 . . . Herpes simplex virus I or II

14/04 . . . Varicella-zoster virus

14/045 . . . Cytomegalovirus

14/05 . . . Epstein-Barr virus

14/055 . . . Marek's disease virus

14/06 . . . Infectious bovine rhinotracheitis virus

14/065 . . . Poxviridae, e.g. avipoxvirus

14/07 . . . Vaccinia virus; Variola virus

14/075 . . . Adenoviridae

14/08 . . . RNA viruses

14/082 . . . [Arteriviridae, e.g. EAV, PRRSV]

14/085 . . . Picornaviridae, e.g. coxsackie virus, echovirus, enterovirus

14/09 . . . Foot-and-mouth disease virus

14/095 . . . Rhinovirus

14/10 . . . Hepatitis A virus

14/105 . . . Poliovirus

14/11 . . . Orthomyxoviridae, e.g. influenza virus

14/115 . . . Paramyxoviridae, e.g. parainfluenza virus

14/12 . . . Mumps virus; Measles virus

14/125 . . . Newcastle disease virus

14/13 . . . Canine distemper virus

14/135 . . . Respiratory syncytial virus

14/14 . . . Reoviridae, e.g. rotavirus, bluetongue virus, Colorado tick fever virus

14/145 . . . Rhabdoviridae, e.g. rabies virus, Duvenhage virus, Mokola virus, vesicular stomatitis virus

14/15 . . . Retroviridae, e.g. bovine leukemia virus, feline leukemia virus human T-cell leukemia lymphoma virus

14/155 . . . Lentiviridae, e.g. visna-maedi virus, equine infectious virus, FIV, SIV

14/16 . . . HIV-1 [ HIV-2]

14/161 . . . [gag-pol, e.g. p55, p24/25, p17/18, p7, p6, p66/68, p51/52, p31/34, p32, p40]

14/162 . . . [env, e.g. gp160, gp110/120, gp41, V3, peptid T, CD4-Binding site]

14/163 . . . [Regulatory proteins, e.g. tat, nef, rev, vif, vpu, vpr, vpt, vpx]

14/165 . . . Coronaviridae, e.g. avian infectious bronchitis virus

14/17 . . . Porcine transmissible gastroenteritis virus

14/175 . . . Bunyaviridae, e.g. California encephalitis virus, Rift valley fever virus, Hantaan virus

14/18 . . . Togaviridae; [Flaviviridae]

14/1808 . . . [Alphaviruses or Group A arboviruses, e.g. sindbis, VEE, EEE, WEE, semliki forest virus (rubella virus C07K 14/19)]

14/1816 . . . [Flaviviridae, e.g. pestivirus, mucosal disease virus, bovine viral diarrhea virus, classical swine fever virus (hog cholera virus), border disease virus]

14/1825 . . . [Flaviviruses or Group B arboviruses, e.g. yellow fever virus, Japanese encephalitis, tick-borne encephalitis, dengue]

14/1833 . . . [Hepatitis C; Hepatitis NAB]

14/1841 . . . [Hepatitis G; Hepatitis NANBNCNDE]

14/19 . . . Rubella virus

14/195 . . . from bacteria

NOTE
In groups C07K 14/20 - C07K 14/365, where appropriate, after the bacteria terminology, the indication of the order (O), family (F) or genus (G) of the bacteria is given in brackets.

14/20 . . . from Spirochaetales (O), e.g. Treponema, Leptospira

14/205 . . . from Campylobacter (G)

14/21 . . . from Pseudomonadaceae (F)

14/212 . . . [Moraxellaceae, e.g. Acinetobacter, Moraxella, Olivella, Psychrobacter]

14/215 . . . from Halobacteriaceae (F)

14/22 . . . from Neisseriaceae (F)

14/225 . . . from Alcaligenes (G)

14/23 . . . from Brucella (G)

14/235 . . . from Bordetella (G)

14/24 . . . from Enterobacteriaceae (F), e.g. Citrobacter, Serratia, Proteus, Providencia, Morganella, Yersinia

14/245 . . . Escherichia (G)

14/25 . . . Shigella (G)

14/255 . . . Salmonella (G)

14/26 . . . Klebsiella (G)

14/265 . . . Enterobacter (G)

14/27 . . . Erwinia (G)

14/275 . . . Hafnia (G)

14/28 . . . from Vibrionaceae (F)

14/285 . . . from Pasteurellaceae (F), e.g. Haemophilus influenza

14/29 . . . from Richettsiales (O)

14/295 . . . from Chlamydiaceae (F)

14/30 . . . from Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]

14/305 . . . from Micrococaceae (F)

14/31 . . . from Staphylococcaceae (F)

14/315 . . . from Streptococcus (G), e.g. Enterococci

14/3153 . . . [Streptokinase]

14/3156 . . . [from Streptococcus pneumoniae (Pneumococcus) (Streptokinase C07K 14/3153)]

14/32 . . . from Bacillus (G)
from animals; from humans from algae from fungi from vertebrates from protozoa \{ from invertebrates \} { Sweetening agents, e.g. } thaumatin, \{ monellin \} Zeins \{ from invertebrates \} \{ from crustaceans \} \{ from arachnidae \} \{ from spiders \} \{ from scorpions \} \{ from ticks \} \{ from mites \} \{ from worms \} \{ from nematodes \} \{ from Caenorhabditis \} \{ from cestodes \} \{ from nematodes \} \{ from Taenia \} \{ from trematodes \} \{ from insects \} \{ from wasps \} \{ from bees \} \{ from flies \} \{ from Drosophila \} \{ from silkworms \} \{ from fleas \} \{ from coelenteratae, e.g. medusae \} \{ from protozoa \} \{ from Plasmodium \} \{ from Toxoplasma \} \{ from Eimeria \} \{ from vertebrates \} \{ from fish \} \{ from amphibians \} \{ from birds \} \{ from mammals \} [ not used ] \{ Regulators; Modulating activity \} \{ Inhibitors; Suppressors \} [ stimulating, promoting or activating activity ] [ Guanosine triphosphatase activating protein, GAP ] [ Muscular dystrophy ] [ Duchenne dystrophy ] \{ Myotonic dystrophy \} \{ Alzheimer's disease; Amyloid plaque core protein \} \{ Cystic fibrosis \} \{ Autoimmune diseases, e.g. Insulin-dependent diabetes mellitus, multiple sclerosis, rheumatoid arthritis, systemic lupus erythematosus; Autoantigens \} \{ Pregnancy proteins, e.g. placenta proteins, alpha-feto-protein, pregnancy specific beta glycoprotein \} \{ Muscle proteins, e.g. myosin, actin \} \{ Plasma globulins, lactoglobulin \} \{ Cytokine-induced proteins \} \{ Complement proteins, e.g. anaphylatoxin, C3a, C5a \} \{ Lipocortins \} \{ G-proteins \} \{ Cationic antimicrobial peptides, e.g. defensins \} \{ Proteoglycans, e.g. aggrecan \} \{ Lectins \} \{ Mucins, e.g. human intestinal mucin \} \{ Calcium binding proteins, e.g. calmodulin \} \{ alpha-Glycoproteins \} \{ Recognins, e.g. malignin \} \{ Casein ( in foodstuffs A23J ) \} \{ Acute pancreatitis-associated protein \} \{ Villin \} \{ Retinoblastoma protein \} \{ C-reactive protein \} \{ Cell cycle regulated proteins, e.g. cyclin, CDC, INK-CCR ( cell cycle dependent kinases C12N 9/12 ) \} \{ Pancreatic thread protein; Reg protein \} \{ Keratin; Cytokeratin \} \{ Bactericidal/Permeability-increasing protein ( BPI ) \} \{ Insulin-like growth factor binding protein \} \{ Cancer-associated SCM-recognition factor, CRISPP \} \{ Apoptosis related proteins \} \{ Tumour specific antigens; Tumour rejection antigen precursors ( TRAP ), e.g. MAGE \} \{ Growth factors; Growth regulators \} \{ Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II \} \{ Neuregulins, i.e. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor \} \{ Nerve growth factor ( NGF ) \} \{ Epidermal growth factor ( EGF ); urogastrone \} \{ Platelet-derived growth factor ( PDGF ) \} \{ Transforming growth factor ( TGF ) \} \{ Fibroblast growth factors ( FGF ) \} \{ acidic FGF [ aFGF ] \} \{ basic FGF [ bFGF ] \}
C07K

14/505 . . . . . . Erythropoietin [EPO]
14/51 . . . . . . Bone morphogenetic factor; Osteogenins; Osteogenic factor; Bone-inducing factor
14/515 . . . . . . Angiogenic factors; Angiogenin
14/52 . . . . . . Cytokines; Lymphokines; Interferons
14/521 . . . . . . [Chemokines]
14/522 . . . . . . [Alpha-chemokines, e.g. NAP-2, ENA-78, GRO-alpha/GM-CSF/NAP-3, GRO-beta/MIP-2alpha, GRO-gamma/MIP-2beta, IP-10, GCP-2, MIG, PBF, PF-4, KC]
14/523 . . . . . . [Beta-chemokines, e.g. RANTES, C-309/TCA-3, MIP-1alpha, MIP-1beta/ACT-2/ LD78/SCIF, MCP-1/MCAF, MCP-2, MCP-3, LDCF-1, LDCF-2]
14/524 . . . . . . [Thrombopoietin, i.e. C-MPL ligand]
14/525 . . . . . . Tumour necrosis factor [TNF]
14/5255 . . . . . . [Lyphotixin [LT]]
14/53 . . . . . . Colony-stimulating factor [CSF]
14/535 . . . . . . Granulocyte CSF; Granulocyte-macrophage CSF
14/54 . . . . . . Interleukins [IL]
14/5403 . . . . . . [IL-3]
14/5406 . . . . . . [IL-4]
14/5409 . . . . . . [IL-5]
14/5412 . . . . . . [IL-6]
14/5415 . . . . . . [Leukaemia inhibitory factor [LIF]]
14/5418 . . . . . . [IL-7]
14/5421 . . . . . . [IL-8]
14/5425 . . . . . . [IL-9]
14/5428 . . . . . . [IL-10]
14/5431 . . . . . . [IL-11]
14/5434 . . . . . . [IL-12]
14/5437 . . . . . . [IL-13]
14/544 . . . . . . [IL-14]
14/5443 . . . . . . [IL-15]
14/5446 . . . . . . [IL-16]
14/545 . . . . . . IL-1
14/55 . . . . . . IL-2
14/555 . . . . . . Interferons [IFN]
14/56 . . . . . . IFN-alpha
14/565 . . . . . . IFN-beta
14/57 . . . . . . IFN-gamma
14/575 . . . . . . Hormones (derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin C07K 14/665, e.g. corticotropin C07K 14/695)
14/57509 . . . . . . [Corticotropin releasing factor [CRF] (Urotensin)]
14/57518 . . . . . . [Placental lactogen; Chorionic somatomammotropin]
14/57527 . . . . . . [Calcitonin gene related peptide]
14/57536 . . . . . . [Endothelin, vasoactive intestinal contract [VIC]]
14/57545 . . . . . . [Neuropeptide Y]
14/57554 . . . . . . [Prolactin]
14/57563 . . . . . . [Vasoactive intestinal peptide [VIP]; Related peptides]
14/57572 . . . . . . [Gastrin releasing peptide (bombesin C07K 7/086)]
14/57581 . . . . . . [Thymosin; Related peptides]
14/5759 . . . . . . [Products of obesity genes, e.g. leptin, obese (OB), tub, fat]
14/58 . . . . . . Atrial natriuretic factor complex; Atriopeptin; Atrial natriuretic peptide [ANP]; Cardionatin; Cardiodilatin
14/582 . . . . . . [at least 1 amino acid in D-form]
14/585 . . . . . . Calcitonins
14/5855 . . . . . . [at least 1 amino acid in D-form]
14/59 . . . . . . Follicle-stimulating hormone [FSH]; Chorionic gonadotropins, e.g. HCG; Luteinising hormone [LH]; Thyroid-stimulating hormone [TSH]
14/592 . . . . . . [at least 1 amino acid in D-form]
14/595 . . . . . . Gastrins; Cholecystokinin [CCK]
14/5955 . . . . . . [at least 1 amino acid in D-form]
14/60 . . . . . . Growth-hormone releasing factors (GH-RF) (Somatoliberin)
14/605 . . . . . . Glucagons
14/61 . . . . . . Growth hormones [GH] (Somatotropin)
14/615 . . . . . . Extraction from natural sources
14/62 . . . . . . Insulins
14/622 . . . . . . [at least 1 amino acid in D-form]
14/625 . . . . . . Extraction from natural sources
14/63 . . . . . . Motilins
14/635 . . . . . . Parathyroid hormone (parathormone); Parathyroid hormone-related peptides
14/64 . . . . . . Relaxins
14/645 . . . . . . Secretins
14/65 . . . . . . Insulin-like growth factors (Somatomedins), e.g. IGF-1, IGF-2
14/655 . . . . . . Somatostatins
14/6555 . . . . . . [at least 1 amino acid in D-form]
14/66 . . . . . . Thymopoietins
14/662 . . . . . . [at least 1 amino acid in D-form]
14/665 . . . . . . derived from pro-opiomelanocortin, pro-enkephalin or pro-dynorphin
14/67 . . . . . . Lipotropins, e.g. beta, gamma lipotropin
14/672 . . . . . . [with at least 1 amino acid in D-form]
14/675 . . . . . . Beta-endorphins
14/6755 . . . . . . [with at least 1 amino acid in D-form]
14/68 . . . . . . Melanocyte-stimulating hormone [MSH]
14/685 . . . . . . Alpha-melanotropin
14/69 . . . . . . Beta-melanotropin
14/695 . . . . . . Corticotropin [ACTH]
14/6955 . . . . . . [with at least 1 amino acid in D-form]
14/70 . . . . . . Enkephalins
14/702 . . . . . . [with at least 1 amino acid in D-form]
14/705 . . . . . . Receptors; Cell surface antigens; Cell surface determinants {tumour specific antigens C07K 14/47481}
14/70503 . . . . . . [Immunoglobulin superfamily]
14/70507 . . . . . . [CD2]
14/7051 . . . . . . [T-cell receptor (TcR)-CD3 complex]
14/70514 . . . . . . [CD4]
14/70517 . . . . . . [CD8]
14/70521 . . . . . . [CD28, CD152]
14/70525 . . . . . . [ICAM molecules, e.g. CD50, CD54, CD102]
14/70528 . . . . . . [CD58]
14/70532 . . . . . . [B7 molecules, e.g. CD80, CD86]
14/70535 . . . . . . [Fc-receptors, e.g. CD16, CD32, CD64 (CD2314/705F)]
14/70539 . . . . . . [MHC-molecules, e.g. HLA-molecules]
14/70542 . . . . . . [CD106]
14/70546 . . . . . . [Integrin superfamily]
14/7055 . . . . [Integrin beta1-subunit-containing molecules, e.g. CD29, CD49]
14/70553 . . . . [Integrin beta2-subunit-containing molecules, e.g. CD11, CD18]
14/70557 . . . . [Integrin beta3-subunit-containing molecules, e.g. CD41, CD51, CD61]
14/7056 . . . . [Lectin superfamily, e.g. CD23, CD72]
14/70564 . . . . [Selectins, e.g. CD62]
14/70567 . . . . [Nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, nuclear orphan receptors]
14/70571 . . . . [for neuromediators, e.g. serotonin receptor, dopamine receptor]
14/70575 . . . . [NGF/TNF-superfamily, e.g. CD70, CD95L, CD153, CD154 (NGF C07K 14/48, TNF C07K 14/525)]
14/70578 . . . . [NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30, CD40, CD95 (NGF-receptor C07K 14/71, TNF-receptor C07K 14/7151)]
14/70582 . . . . [CD71]
14/70585 . . . . [CD44]
14/70589 . . . . [CD45]
14/70592 . . . . [CD52]
14/70596 . . . . [Molecules with a "CD"-designation not provided for elsewhere]
14/71 . . . for growth factors; for growth regulators
14/715 . . . for cytokines; for lymphokines; for interferons
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. TSH-receptor, LH/hCG receptor, FSH receptor]
14/745 . . . Blood coagulation or fibrinolysis factors
14/7455 . . . [Thrombomodulin]
14/75 . . . . . . Fibrinogen
14/755 . . . . . . . . Factors VIII [i.e. factor VIII C (AHF), factor VIII Ag (VWF)]
14/76 . . . . . . Albumsin
14/765 . . . . . . Serum albumin, e.g. HSA
14/77 . . . . . . Ovalbumin
14/775 . . . . . . Apolipoproteids
14/78 . . . . Connective tissue peptides, e.g. collagen, elastin, laminin, fibronecction, 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 activators]
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 enzymic activity, e.g. azymes 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 [i.e. 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. gp17, 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]
against material from bacteria
against material from fungi, algae or lichens
against material from plants
against material from fungi or animals
against enzymes
against protease inhibitors of peptide structure
against blood coagulation factors
against blood group antigens
against translation products of oncogenes from tumour cells
against enzymes
against selectins
against tumour-associated mucins
against tumour-associated gangliosides
against CD106
against CD58
against B7 molecules
against Fe-receptors
against CD5
against CD7
against CD8
against CD28 or CD152
against ICAM molecules
against CD54, CD102
against CD58
against CD80, CD86
against CD16, CD32, CD64 (CD23 C07K 16/2851)
against MHC-molecules
against CD106
against the integrin superfamily
against integrin beta1-subunit-containing molecules
against integrin beta2-subunit-containing molecules
against integrin beta3-subunit-containing molecules
against the lectin superfamily
against selectins, e.g. CD62
against nuclear receptors
against serotonin receptor, dopamine receptor
against receptors for growth factors, growth regulators
against receptors for cytokines, lymphokines, interferons
against hormone receptors (for antibodies against neuroendocrine receptors C07K 16/286)
against prion molecules
against the NGF/TNF superfamily
against the NGF/TNF superfamily
against CD27, CD30, CD40, CD95
against growth factors
against growth regulators
against the NGF/TNF-receptor superfamily
against CD71
against CD44
against CD20
against CD45
against CD52
against molecules with a "CD"-designation, not provided for elsewhere
from tumour cells
against Carcino-embryonic Antigens
against Breast
against Lung
against Liver or Pancreas
against Kidney, bladder
against Stomach, Intestines
against Skin, nerves, brain
against Blood cells
against Reproductive system, e.g. ovaria, uterus, testes, prostate
against structure-related tumour-associated moieties
against tumour-associated gangliosides
against tumour-associated mucins
against translation products of oncogenes
against blood group antigens
against blood coagulation factors
against protease inhibitors of peptide structure
against enzymes
2317/10 . characterized by their source of isolation or production
2317/11 . isolated from eggs
2317/12 . isolated from milk
2317/13 . isolated from plants
2317/14 . Specific host cells or culture conditions, e.g. components, pH or temperature
2317/20 . characterized by taxonomic origin
2317/21 . from primates, e.g. man
2317/22 . from camels, e.g. camel, llama or dromedary
2317/23 . from birds
2317/24 . containing regions, domains or residues from different species, e.g. chimeric, humanized or veneered
2317/30 . characterized by aspects of specificity or valency
2317/31 . multispecific
2317/32 . specific for a neo-epitope on a complex, e.g. antibody-antigen or ligand-receptor
2317/33 . Crossreactivity, e.g. for species or epitope, or lack of said crossreactivity
2317/34 . Identification of a linear epitope shorter than 20 amino acid residues or of a conformational epitope defined by amino acid residues
2317/35 . Valency
2317/36 . characterized by post-translational modification
2317/41 . Glycosylation, sialylation, or fucosylation
2317/50 . characterized by immunoglobulin fragments
2317/51 . Complete heavy chain or Fd fragment, i.e. VH + CH1
2317/515 . Complete light chain, i.e. VL + CL
2317/52 . Constant or Fc region; Isotype
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
2317/565 . Complementarity determining region (CDR)
2317/567 . Framework region [FR]
2317/569 . Single domain, e.g. dAb, sdAb, VH, VNAR or nanobody®
2317/60 . characterized by non-natural combinations of immunoglobulin fragments
2317/62 . comprising only variable region components
2317/622 . Single chain antibody (scFv)
2317/624 . Disulfide-stabilized antibody (dsFv)
2317/626 . Diabody or triabody
2317/64 . comprising a combination of variable region and constant region components
2317/66 . comprising a swap of domains, e.g. CH3-CH2, VH-CL or VL-CH1
2317/70 . characterized by effect upon binding to a cell or to an antigen
2317/71 . Decreased effector function due to an Fc-modification
2317/72 . Increased effector function due to an Fc-modification
2317/73 . Inducing cell death, e.g. apoptosis, necrosis or inhibition of cell proliferation
2317/732 . Antibody-dependent cellular cytotoxicity [ADCC]
2317/734 . Complement-dependent cytotoxicity [CDC]
2317/74 . Inducing cell proliferation
2317/75 . Agonist effect on antigen
2317/76 . Antagonist effect on antigen, e.g. neutralization or inhibition of binding
2317/77 . Internalization into the cell
2317/80 . remaining in the (producing) cell, i.e. intracellular antibodies or intrabodies
2317/81 . functional in the endoplasmatic reticulum [ER] or the Golgi apparatus
2317/82 . functional in the cytoplasm, the inner aspect of the cell membrane, the nucleus or the mitochondria
2317/90 . characterized by (pharmacokinetic) aspects or by stability of the immunoglobulin
### Fusion polypeptide

| 2319/01 | containing a localisation/targetting motif |
| 2319/02 | containing a signal sequence |
| 2319/03 | containing a transmembrane segment |
| 2319/033 | containing a motif for targeting to the internal surface of the plasma membrane, e.g. containing a myristoylation motif |
| 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 |
| 2319/035 | containing a signal for targeting to the external surface of a cell, e.g. to the outer membrane of Gram negative bacteria, GPL-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 chloroplasts 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 |