CPC

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 hydroxyl 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 hydroxyl 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-OCH$_2$CO,H and Gly-OCH$_2$CO-Ala-Gly are considered as "linear depsipeptides". but HOCH$_2$CO-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-OCH$_2$CO.
   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.
C07K

C07K

(continued)

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 5/0202
   - 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 5/068 covered by C07K 5/06078
   - C07K 5/072 covered by C07K 5/06086
   - C07K 5/075 covered by C07K 5/06104
   - C07K 5/078 covered by C07K 5/0613
   - C07K 5/083 covered by C07K 5/06139
   - C07K 5/087 covered by C07K 5/0804
   - C07K 5/09 covered by C07K 5/0812
   - C07K 5/103 covered by C07K 5/0815
   - C07K 5/107 covered by C07K 5/0819
   - C07K 5/11 covered by C07K 5/0821
   - C07K 5/113 covered by C07K 5/0824
   - C07K 14/185 covered by C07K 14/1816
   - C07K 14/725 covered by C07K 14/705
   - C07K 14/735 covered by C07K 14/70535

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 }  
1/023  { using racemisation inhibiting agents}  
1/026  { by fragment condensation in solution}  
1/04  { on carriers }  
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}  
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 }  

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 }  
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 }  
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}
Peptides of undefined number of amino acids; Derivatives thereof

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

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

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

NOTE

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

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;

carboxylic acid groups or derivatives thereof, e.g. Asp;

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;

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

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;

heteroatoms not provided for by

(5) amino acids

(4) amino groups than carboxylic acid groups or derivatives thereof, e.g. Asp;

(3) amino groups than carboxylic acid groups or derivatives thereof, e.g. Asp;

(2) amino groups than carboxylic acid groups or derivatives thereof, e.g. Asp;

(1) amino groups than carboxylic acid groups or derivatives thereof, e.g. Asp;

(0) amino groups than carboxylic acid groups or derivatives thereof, e.g. Asp;

Side chain: the R radical

in the optionally functionalised amino acid R-CH(NH2)CO2H)
Peptides having 5 to 20 amino acids in a fully defined sequence; Derivatives thereof

**NOTE**

Cyclic peptides containing at least one abnormal peptide bond in the ring are classified as linear peptides.

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

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]
14/005 . . . 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. 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 . . . Polyomavirus

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, Mokda 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, p60/68, 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 (rubeuilla virus C07K 14/19)]

14/1816 . . . . . . . [Flaviviridae, e.g. pestivirus, mucosal disease virus, bovine viral diarrrhoea 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 NANBNCNDNE]

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.
14/325 . . . Bacillus thuringiensis crystal protein (delta-endotoxin)
14/33 . . . from Clostridium (G)
14/335 . . . from Lactobacillus (G)
14/34 . . . from Corynebacterium (G)
14/345 . . . from Brevibacterium (G)
14/35 . . . from Mycobacteriaceae (F)
14/355 . . . from Nocardia (G)
14/36 . . . from Actinomycetes; from Streptomyces (G)
14/365 . . . from Actinoplanes (G)
14/37 . . . from fungi
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
14/43504 . . . {from invertebrates}
14/43509 . . . {from crustaceans}
14/43513 . . . {from arachnidae}
14/43518 . . . {from spiders}
14/43522 . . . {from scorpions}
14/43527 . . . {from ticks}
14/43531 . . . {from mites}
14/43536 . . . {from worms}
14/4354 . . . {from nematodes}
14/43545 . . . {from Caenorhabditis}
14/4355 . . . {from cestodes}
14/43555 . . . {from Taenia}
14/43559 . . . {from trematodes}
14/43563 . . . {from insects}
14/43568 . . . {from wasps}
14/43572 . . . {from bees}
14/43577 . . . {from flies}
14/43581 . . . {from Drosophila}
14/43586 . . . {from silkworms}
14/4359 . . . {from fleas}
14/43595 . . . {from coelenteratae, e.g. medusae}
14/44 . . . from protozoa
14/445 . . . Plasmodium
14/45 . . . Toxoplasma
14/455 . . . Eimeria
14/46 . . . from vertebrates
14/461 . . . {from fish}
14/463 . . . {from amphibians}
14/465 . . . from birds
14/47 . . . from mammals
14/4701 . . . {not used}
14/4702 . . . . . . . {Regulators; Modulating activity}
14/4703 . . . {Inhibitors; Suppressors}
14/4705 . . . {stimulating, promoting or activating activity}
14/4706 . . . . . . . {Guanosine triphosphatase activating protein, GAP}
14/4707 . . . . . . . {Muscular dystrophy}
14/4708 . . . . . . . {Duchenne dystrophy}
14/471 . . . . . . . [Myotonic dystrophy]
14/4711 . . . . . . . [Alzheimer's disease; Amyloid plaque core protein]
14/4712 . . . . . . . [Cystic fibrosis]
14/4713 . . . . . . . [Autoimmune diseases, e.g. Insulin-dependent diabetes mellitus, multiple sclerosis, rheumatoid arthritis, systemic lupus erythematosus; Autoantigens]
14/4715 . . . . . . . [ Pregnancy proteins, e.g. placenta proteins, alpha-feto-protein, pregnancy specific beta glycoprotein]
14/4716 . . . . . . . [Muscle proteins, e.g. myosin, actin]
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]
14/4727 . . . . . . . [Mucins, e.g. human intestinal mucin]
14/4728 . . . . . . . [Calcium binding proteins, e.g. calmodulin]
14/473 . . . . . . . [alpha-Glycoproteins]
14/4731 . . . . . . . [Recognins, e.g. malignin]
14/4732 . . . . . . . [Casein (in foodstuffs A233)]
14/4733 . . . . . . . [Acute pancreatitis-associated protein]
14/4735 . . . . . . . [Villin]
14/4736 . . . . . . . [Retinoblastoma protein]
14/4737 . . . . . . . [C-reactive protein]
14/4738 . . . . . . . [Cell cycle regulated proteins, e.g. cyclin, CDC, INK-CCR (cell cycle dependent kinases C12N9/123)]
14/474 . . . . . . . [Pancreatic thread protein; Reg protein]
14/4741 . . . . . . . [Keratin; Cytokeratin]
14/4742 . . . . . . . [Bactericidal/Permeability-increasing protein [BPI]]
14/4743 . . . . . . . [Insulin-like growth factor binding protein]
14/4745 . . . . . . . [Cancer-associated SCM-recognition factor, CRISPP]
14/4746 . . . . . . . [p53]
14/4747 . . . . . . . [Apoptosis related proteins]
14/4748 . . . . . . . [Tumour specific antigens; Tumour rejection antigen precursors [TRAP], e.g. MAGE]
14/475 . . . . . . . [Growth factors; Growth regulators]
14/4753 . . . . . . . [Hepatocyte growth factor; Scatter factor; Tumor cytotoxic factor II]
14/4756 . . . . . . . [Neuregulins, i.e. p185erbB2 ligands, glial growth factor, heregulin, ARIA, neu differentiation factor]
14/48 . . . . . . . [Nerve growth factor [NGF]]
14/485 . . . . . . . [Epidermal growth factor [EGF] (urogastrone)]
14/49 . . . . . . . [Platelet-derived growth factor [PDGF]]
14/495 . . . . . . . [Transforming growth factor [TGF]]
14/50 . . . . . . . [Fibroblast growth factors [FGF]]
14/501 . . . . . . . [acidic FGF [aFGF]]
14/503 . . . . . . . [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/MGS/NAP-3, GRO-beta/MIP-2alpha,
GRO-gamma/MIP-2beta, IP-10, GCP-2, MIG, PBFS, PF-4, KC]
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]
14/524 . . . [Thrombopoietin, i.e. C-MPL ligand]
14/525 . . . Tumour necrosis factor [TNF]
14/5255 . . . [Lyphotoxin [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 somatomammatropin]
14/57527 . . . [Calcitonin gene related peptide]
14/57536 . . . [Endothelin, vasoactive intestinal contractor
[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]

C07K
Protease inhibitors

Porphyrin- or corrin-ring-containing peptides

Haemoglobins; Myoglobins

Transferrins, e.g. lactoferrins, ovotransferrins

Alveolar surfactant peptides; Pulmonary globulin [CIG]

Laminin, fibronectin, vitronectin, cold insoluble A

Apolipopeptides

Albumins

Blood coagulation or fibrinolysis factors

Immunoglobulins [IGs], e.g. monoclonal or polyclonal antibodies ([antibodies with enzymatic 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

Metallothioneins

16/00 Immunoglobulins [IGs], e.g. monoclonal or polyclonal antibodies ([antibodies with enzymatic 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

Metallothioneins
against material from bacteria

{against Gram-negative bacteria}
{againstSpirochaetes (O), e.g. Treponema, Leptospira}
{against Helicobacter (Campylobacter) (G)}
{against Pseudomonadaceae (F)}
{against Neisseriaceae (F), e.g. Acinetobacter}
{against Brucella (G)}
{against Bordetella (G)}
{against Enterobacteriaceae (F), e.g. Citrobacter, Serratia, Proteus, Providencia, Morganella, Yersinia}
{against Escherichia (G)}
{against Salmonella (G)}
{against Vibrioniaceae (G)}
{against Pasteurellaceae (F), e.g. Haemophilus influenza}
{against Rickettsiales (O)}
{against Chlamydiaceae (O)}
{against Mycoplasmatales, e.g. Pleuropneumonia-like organisms [PPLO]}
{against Bacteriaceae (F)}
{against Legionella (G)}
{against Rhizobiaceae (F)}
{against Gram-positive bacteria}
{against Micrococccaceae (F), e.g. Staphylococcus}
{against Streptococcus (G)}
{against Bacillus (G)}
{against Clostridium (G)}
{against Corynebacterium (G)}
{against Mycobacteriaceae (F)}
{against Actinomycyes; from Streptomyces (G)}
{against Listeria}

against material from fungi, algae or lichens
against material from plants
against material from animals or humans
from protozoa
{Plasmodium}
against growth factors [: against growth regulators]
against cytokines, lymphokines or interferons
{Tumor Necrosis Factors}
[Lymphotoxin [LT]]
[Colony Stimulating Factors]
[Interleukins [IL]]
{IL-1}
{IL-2}
{IL-4}
{IL-6}
[Interferons]
against hormones [: against hormone releasing or inhibiting factors]
against receptors, cell surface antigens or cell surface determinants
{against the immunoglobulin superfamily}
{against CD2}
{against the T-cell receptor (TcR)-CD3 complex}
{against CD4}
{against CD8}
{against CD28 or CD152}

{against ICAM molecules, e.g. CD50, CD54, CD102}
{against CD58}
{against B7 molecules, e.g. CD80, CD86}
{against Fe-receptors, e.g. CD16, CD32, CD64 (CD23 C07K 16/2851)}
{against MHC-molecules, e.g. HLA-molecules}
{against CD106}
{against the integrin superfamily}
{against integrin beta1-subunit-containing molecules, e.g. CD29, CD49}
{against integrin beta2-subunit-containing molecules, e.g. CD11, CD18}
{against integrin beta3-subunit-containing molecules, e.g. CD41, CD51, CD61}
{against the lectin superfamily, e.g. CD23, CD72}
{against selectins, e.g. CD62}
{against nuclear receptors, e.g. retinoic acid receptor [RAR], RXR, orphan receptor}
{against neutromediator receptors, e.g. serotonin receptor, dopamine receptor}
{against receptors for growth factors, growth regulators}
{against receptors for cytokines, lymphokines, interferons}
{against hormone receptors (for antibodies against neutromediator receptors C07K 16/286)}
{against prion molecules, e.g. CD230}
{against the NGF/TNF superfamily, e.g. CD70, CD95L, CD153, CD154 (against NGF C07K 16/22, against TNF C07K 16/241)}
{against the NGF-receptor/TNF-receptor superfamily, e.g. CD27, CD30, CD40, CD95}
{against CD71}
{against CD44}
{against CD20}
{against CD45}
{against CD52}
{against molecules with a "CD"-designation, not provided for elsewhere}
from tumour cells
{Carcino-embryonic Antigens}
[Breast]
[Lung]
{Liver or Pancreas}
[Kidney, bladder]
{Stomach, Intestines}
{Skin, nerves, brain}
{Blood cells}
{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
C07K

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. haptons, 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 from 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 and FR-residues from another]
16/465 . [with additional modified FR-residues]
16/467 . [Igs with modifications in the FR-regions only]
16/468 . (Immunoglobulins having two or more different antigen binding sites, e.g. multifunctional antibodies)

17/00 Carrier-bound or immobilised peptides (carrier-bound or immobilised enzymes C12N 11/00); Preparation thereof
17/02 . Peptides being immobilised on, or in, an organic carrier
17/04 . entrapped within the carrier, e.g. gel, hollow fibre
17/06 . attached to the carrier via a bridging agent
17/08 . the carrier being a synthetic polymer
17/10 . the carrier being a carbohydrate
17/12 . Cellulose or derivatives thereof
17/14 . Peptides being immobilised on, or in, an inorganic carrier

19/00 Hybrid peptides

2299/00 Coordinates from 3D structures of peptides, e.g. proteins or enzymes

2317/00 Immunoglobulins specific features
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 camelds, 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, VHH, 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 (pharmaco)kinetic aspects or by stability of the immunoglobulin
Fusion polypeptide

- containing a localisation/targetting motif
- containing a signal sequence
- containing a transmembrane segment
- containing a motif for targeting to the internal surface of the plasma membrane, e.g. containing a myristoylation motif
- containing a motif for targeting to the periplasmic space of Gram negative bacteria as a soluble protein, i.e. signal sequence should be cleaved
- 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
- targeting to the medium outside of the cell, e.g. type III secretion
- containing an ER retention signal such as a C-terminal HDEL motif
- containing a GOLGI retention signal
- containing a signal for localisation to secretory granules (for exocytosis)
- containing a lysosomal/endosomal localisation signal
- containing a mitochondrial localisation signal
- containing a chloroplasts localisation signal
- containing a nuclear localisation signal
- containing a nuclear export signal
- containing a tag for extracellular membrane crossing, e.g. TAT or VP22
- containing a tag with affinity for a non-protein ligand
- containing a His-tag
- containing a Strep-tag
- containing a GST-tag
- containing an intein ("protein splicing") domain
- containing a MBP (maltose binding protein)-tag
- Non-immunoglobulin-derived peptide or protein having an immunoglobulin constant or Fc region, or a fragment thereof, attached thereto
- fusions, other than Fc, for prolonged plasma life, e.g. albumin
- fusions with soluble part of a cell surface receptor, "decoy receptors"
- fusions for targeting to specific cell types, e.g. tissue specific targeting, targeting of a bacterial subspecies
- containing a fusion for enhanced stability/folding during expression, e.g. fusions with chaperones or thioredoxin
- containing a tag for immunodetection, or an epitope for immunisation
- containing a FLAG-tag
- containing a Myc-tag
- containing a HA(hemagglutinin)-tag
- containing a protein-A fusion
- containing a domain for activation of a cell surface receptor, e.g. containing a steroid receptor domain
- containing SH2 domain
- containing a Zn-finger motif (leucine zippers)
- containing a domain for self-assembly, e.g. a viral coat protein (includes phage display)
- containing a fusion for binding to a cell surface receptor
- containing a fusion for activation of a cell surface receptor, e.g. containing a steroid receptor domain
- containing a DNA binding domain, e.g. Lacl or Tet-repressor
- containing a Zn-finger domain for DNA binding
- containing an RNA binding domain
- containing a motif for post-translational modification
- containing a motif for glycosylation
- containing a GPI (phosphatidyl-inositol glycane) anchor
- containing a domain for acylation
- containing an integrin ("protein splicing") domain
- containing a motif/fusion for degradation (ubiquitin fusions, PEST sequence)