EUROPEAN PATENT OFFICE
U.S. PATENT AND TRADEMARK OFFICE

CPC NOTICE OF CHANGES 1291

DATE: MAY 1, 2022

PROJECT MP10318

The following classification changes will be effected by this Notice of Changes:

Action	Subclass	Group(s)
SCHEME:		
Notes New:	C12N	15/64
	C12N	15/65
	C12N	15/66
	C12N	2310/00
Notes Modified:	C12N	Subclass
	C12N	15/06
	C12N	15/10
DEFINITIONS:		
Definitions Modified:	C12N	Subclass
	C12N	15/00, 15/10, 15/64
	C12N	2310/00, 2310/30, 2310/33, 2310/34, 2310/321, 2310/322, 2310/323
	C12N	2320/11

No other subclasses/groups are impacted by this Notice of Changes.

This Notice of Changes includes the following *[Check the ones included]:*

1. CLASSIFICATION SCHEME CHANGES

 ☐ A. New, Modified or Deleted Group(s)

 ☐ B. New, Modified or Deleted Warning(s)

 ☒ C. New, Modified or Deleted Note(s)

 ☐ D. New, Modified or Deleted Guidance Heading(s)

2. DEFINITIONS

 ☒ A. New or Modified Definitions (Full definition template)

 ☐ B. Modified or Deleted Definitions (Definitions Quick Fix)

3. ☐ REVISION CONCORDANCE LIST (RCL)

4. ☐ CHANGES TO THE CPC-TO-IPC CONCORDANCE LIST (CICL)

5. ☐ CHANGES TO THE CROSS-REFERENCE LIST (CRL)

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1. CLASSIFICATION SCHEME CHANGES

   A. New, Modified or Deleted Note(s)

SUBCLASS C12N - MICROORGANISMS OR ENZYMES; COMPOSITIONS THEREOF; PROPAGATING, PRESERVING, OR MAINTAINING MICROORGANISMS; MUTATION OR GENETIC ENGINEERING; CULTURE MEDIA (microbiological testing media C12Q 1/00) [2020-02

Type*	Location	Old Note	New/Modified Note
M	C12N	1. Documents relating to the use of vectors or hosts for the preparation of specific peptides, e.g. enzymes, are classified in subclass C07K or in group C12N 9/00 according to the peptides, with the appropriate indexing codes. 2. Attention is drawn to Notes (1) to (3) following the title of Class C12. 3. When classifying in this group, classification is also made in group B01D 15/08 insofar as subject matter of general interest relating to chromatography is concerned.	1. Attention is drawn to Notes (1) to (3) following the title of class C12. 2. Biocidal, pest repellant, pest attractant or plant growth regulatory activity of compounds or preparations is further classified in subclass A01P. 3. Therapeutic activity of single-cell proteins or enzymes is further classified in subclass A61P. 4. 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. 5. In this subclass, it is desirable to add the indexing codes of subclass C12R. 6. {Documents relating to the use of vectors or hosts for the preparation of specific peptides, e.g. enzymes, are classified in subclass C07K or in group C12N 9/00 according to the peptides, with the appropriate indexing codes.} 7. {In this subclass, combination sets [C-Sets] are used. The detailed information about the C-Sets construction and the associated syntax rules is present in the definitions of C12N.}

M	C12N 5/06	• In this group, the following words are used with the meanings indicated:
		   • a "totipotent" cell can differentiate into all somatic lineages (ectoderm, mesoderm, endoderm), the germ line and extra-embryonic tissues such as the placenta;
		   • a "pluripotent" cell is a somatic stem cell
			{In this group, the following words are used with the meanings indicated:
			   • a "totipotent" cell can differentiate into all somatic lineages (ectoderm, mesoderm, endoderm), the germ line and extra-embryonic tissues such as the placenta;
			   • a "pluripotent" cell is a somatic stem cell which can differentiate into cells of at least two of the three somatic

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Type*	Location	Old Note	New/Modified Note
		which can differentiate into cells of at least two of the three somatic lineages (ectoderm, mesoderm, endoderm); • a "multipotent" cell is restricted to one lineage. "Progenitor" and "precursor" cells are further restricted within the lineage. If not explicitly forseen, totipotent cells are classified with pluripotent cells. Multipotent cells should not be classified with pluripotent cells	lineages (ectoderm, mesoderm, endoderm); • a "multipotent" cell is restricted to one lineage. "Progenitor" and "precursor" cells are further restricted within the lineage. If not explicitly forseen, totipotent cells are classified with pluripotent cells. Multipotent cells should not be classified with pluripotent cells. The last place priority rule does not apply between the subgroups of this group}
M	C12N15/10	After the symbol C12N 15/10 - C12N 15/1096, and separated therefrom by a + sign, it is desirable to add the indexing codes selected from groups C12Q 2500/00 - C12Q 2565/634 , relating to relevant technical features of the invention. When more than one indexing code is selected, the different codes are separated by a + sign. Example: C12N 15/1037 + C12Q 2537/ 125 + C12Q 2521/537	{In groups C12N 15/10 - C12N 15/1096, C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of C12N}.
N	C12N 15/64		{In groups C12N 15/64, C12N 15/65, and C12N 15/66, C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of C12N}.
N	C12N 15/65		{In the group C12N 15/65, C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of C12N}
N	C12N 15/66		{In the group C12N 15/66, C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of C12N}

Type*	Location	Old Note	New/Modified Note
N	C12N2310/00		In groups C12N 2310/00 - C12N 2310/533, C-Sets are used for classification. The detailed information about the C-Sets construction and the associated syntax rules are found in the Definitions of C12N.

*N = new note, M = modified note, D = deleted note

NOTE: The "Location" column only requires the symbol PRIOR to the location of the note. No further directions such as "before" or "after" are required.

2. A. DEFINITIONS (modified)

C12N

Special rules of classification

Replace: The existing Special rules of classification text with the following updated text.

In this subclass, with the exception of group C12N5/06, in the absence of an indication to the contrary, classification is made in the last appropriate place.

In this subclass, viruses, human, animal, or plant cells, protozoa, tissues, and unicellular algae are considered as microorganisms.

Overview of relevant orthogonal Indexing symbols:

C12N 2500/00:

Indexing symbols intended for the nutritive components of culture media in combination with C12N 5/0018 (generic media) or C12N 5/06 and subgroups (specific media)—but effects beyond nutrition are not excluded. There is some aspect of classification by pathway in that C12N 2500/10 and subgroups cover metals as well as metal chelators. Note that C12N 2500/25 substitutes for any combination of C12N 2500/05 (for selenium), C12N 2500/24 (transferrin/iron) and C12N 2501/33 (insulin). An example of "undefined extract" is Bovine Pituitary Extract (BPE), C12N 2500/84; serum is not indexed as undefined extract since codes are provided for its explicit absence. C12N 2500/02 codes for explicitly low (or high) O_2 pressure, not for the "usual" 5% CO_2. Antibiotics are not foreseen in the scheme.

C12N 2501/00:

Indexing symbols intended for biologically active agents in culture and differentiation processes in combination with C12N 5/06 and subgroups or C12N 5/0018. Indexation is made at the most relevant place, taking account of the biological pathway involved and not the chemical structure, unlike apparently similar hierarchies such as those found in C07K 14/00 or A61K 38/00; e.g.OKT3 antibody C12N 2501/515, staurosporine C12N 2501/727 (tyrosine kinase

inhibitor), KAAD-cyclopamine C12N 2501/41 (interferes with Hedgehog pathway), copper salts C12N 2500/20 (more specific symbols under C12N 2500/00 take precedence over C12N 2501/00). Where pathways intersect or overlap, precedence is given to the most specific symbol and multiple classification may well be considered. Head symbols (C12N 2501/10, C12N 2501/20, C12N 2501/30, etc.) should be used only for specific agents not (yet) foreseen in the detailed scheme. C12N 2501/998 - C12N 2501/999 serve as repository for proteins and chemicals which do not fit (yet) within the scheme. C12N 2501/50 and sub-symbols, are not intended to code for markers used in purification and/or identification of cells. (These are intrinsic properties of the cells, not reagents.)

C12N 2502/00:

Complements the C12N 2500/00 and C12N 2501/00 series to indicate conditioned media or co-culture conditions. Also used to index the components of artificial constructs and tissue equivalents: see C12N 5/0697.

C12N 2506/00:

Symbols for "remarkable" differentiation processes, i.e.:

- differentiation from one lineage to a different one, "lineages" being understood as the three dot hierarchies under C12N 5/0602, (i.e. going from C12N 5/0603 - C12N 5/0693).
- differentiation of pluripotent cells (ES C12N 5/0606, EG C12N 5/0611, iPS C12N 5/0696, multipotent adult stem cells C12N 5/0607)
- and also dedifferentiation, i.e. going backwards from a differentiated cell type to the corresponding stem/progenitor.

"Typical" differentiation processes from a lineage-specific stem/progenitor cell to its regular progeny within the same lineage should not be indexed.

C12N 2506/00 is occasionally used to index files pertaining to "rejuvenation" without any actual, specific and characterized/type-able resulting product (see C12N 5/16).

C12N 2509/00:

Used to spot the use of specific enzymes to digest tissues, i.e. not regular dispase/collagenase, or the use of very precise conditions for digestion.

C12N 2510/00:

Introduced with the closure of C12N 5/10.

C12N 2517/00:

C12N 2517/02 and C12N 2517/04 pertain to isolated cells from a transgenic or cloned animal (A01K 67/00, C12N 15/00 with A01K); in most cases, such documents do not actually belong to C12N 5/00. C12N 2517/10 documents pertain to cultivation steps which belong to C12N 5/00 (e.g. synchronisation of cells for nuclear transfer, maturation of oocytes for fecundation), although the ultimate purpose is still outside of C12N 5/00 and the document should be circulated accordingly.

C12N 2531/00:

Used in combination with C12N 5/06 (use of microsupports with a specific cell type).

C12N 2533/00:

Used in combination with C12N 5/0068 (mostly), but also C12N 5/0012 and C12N 5/06. Codes may be given either for the base material of the support or for coatings on said support.

Combination Sets (C-Sets):

In this subclass, C-Sets classification is applied to the following groups, listed in the table below, if the document discloses a pertinent combination of technical features that cannot be covered by the allocation of a single symbol. The fourth column of the table indicates the place where the detailed information about the C-Sets construction and the associated syntax rules can be found, in the definition section "Special rules of classification".

C-SETS ID	BASE SYMBOL	SUBSEQUENT SYMBOLS	C-SETS FORMULA; LOCATION OF C-SETS RULES
#C12Na	C12N15/10 - C12N15/1096	C12Q2500/00 - C12Q2565/634	(C12N, C12Q), DNA or RNA isolation/preparation process and its essential technical features; See C12N15/10

| #C12Nb | C12N15/64 - C12N15/66 | C12Q2500/00 - C12Q2565/634 | (C12N, C12Q), method for preparing vectors and its essential technical features; See C12N15/64 |
| #C12Nc | C12N2310/00 - C12N2310/533 | C12N2310/00 - C12N2330/51 | (C12N, C12N) Structure of a nucleic acid; see C12N2310/00 |

The specific C-Sets rule is located at only one place of the base symbol in the section "Special rules of classification" in the definition. If the C-Sets rule is applicable to all groups of a subclass, it is located at the subclass level only. If the same C-Sets rule is applicable to multiple groups or subgroups within the same subclass, the C-Sets rule is placed at the highest group or subgroup of the multiple groups.

C12N 15/00

Special rules of classification

Replace: The existing Special rules of classification text with the following updated text.

Classification in C12N 15/00 should only be performed in exceptional cases in the absence of a more specific subgroup.

C12N 9/00 (and C07K 14/00) vs. C12N 15/00: C12N 9/00 (and C07K 14/00) stop where C12N 15/00 begins. C12N 9/00 (and C07K 14/00) are only used for the product (the inventive non-coding sequence of a gene) while C12N 15/00 is used for the use of this product (e.g. a promoter present in a vector for the production of other proteins). Non-coding sequences are only classified in C12N 9/00 (or C07K 14/00) if they are (part of) the invention. If the non-coding sequence is just an arbitrary choice from more available sequences it is not classified in C12N 9/00 (or C07K 14/00).

C-Sets classification:

In this group, C-Sets (#C12Na) are used. The detailed information about the C-Sets construction and the associated syntax rules are found in the "Special rules of classification" in C12N15/10.

C12N 15/10

Special rules of classification

<u>Replace</u>: The existing Special rules of classification text with the following updated text.

Combination sets (C-Sets):
C-Sets statement : #C12Na

- In groups C12N15/10 and its lower subgroups, DNA or RNA isolation/preparation processes are classified in the form of C-Sets.

- In these C-Sets, the base symbol, representing DNA or RNA isolation/preparation processes (or method), is taken from the groups C12N15/10 - C12N15/1096, whereas the subsequent symbol(s), representing the essential non-trivial technical feature(s) of the method, is (are) taken from the Indexing Codes under C12Q2500/00 - C12Q2565/634.

- Orthogonal symbols C12Q 2500/00 - C12Q 2565/634 are only used as subsequent symbols in C-Sets and should not be allocated as single symbols.
- In the C-set, only the essential technical features of the invention, which are non-trivial and differentiate them from the prior art, are to be represented using appropriate Indexing Codes C12Q2500/00 - C12Q2565/634.
- All indexing codes from groups C12Q 2500/00 - C12Q 2565/634 are to be used in the context literally expressed in the phrase ascribed to the code, i.e. the use of an indexing code is neither restricted by its hierarchical position in a group nor by the definition of the group in which the code is found.

C-Sets syntax rules:
- Each C-Set shall contain at least two symbols.
- Duplicate symbols are not allowed in these C-Sets. Multiple subsequent symbols from C12Q 2500/00 - C12Q 2565/634, if fit, can be used as C-Sets.
- The order of symbols in the C-Sets is relevant as it reflects the methods or process as a base symbol and the specific components of cell culture

medium as a subsequent symbol, which are displayed in alphanumerical order.

C-Sets examples:

- #C12Na: A method of directed molecular evolution (C12N15/1058) comprising incorporating random nucleotide sequences (C12Q2525/179) by primer extension (C12Q2533/101) of oligonucleotides comprising a modified backbone (C12Q2525/113) is classified as (C12N15/1058, C12Q2525/113, C12Q2525/179, C12Q2533/101).

- #C12Na: A method of isolating genomic DNA by ion exchange (C12N15/101) for the purpose of massive parallel sequencing (C12Q2535/122) using a heat treatment (C12Q2527/101) is classified as (C12N15/101, C12Q2527/101, C12Q2535/122).

C12N 15/64

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Bacterial vectors	C12N 15/70, C12N 15/71, C12N 15/72, C12N 15/73, C12N 15/74, C12N 15/75, C12N 15/76, C12N 15/77, C12N 15/78
Eukaryotic vectors	C12N 15/79
Fungal vectors	C12N 15/80, C12N 15/81
Plant vectors	C12N 15/82
Animal vectors	C12N 15/85
Viral vectors for animal cells	C12N 15/86

Special rules of classification

<u>Replace</u>: The existing Special rules of classification text with the following updated text.

Combination sets (C-Sets):
C-Sets statement : #C12Nb

- In groups C12N15/64 - C12N15/66, methods for preparing vectors are classified in the form of C-Sets.
- In these C-Sets, the base symbol, representing methods for preparing vectors, is taken from the groups C12N15/64 - C12N15/66, whereas the subsequent symbols, representing the feature(s) of the methods, is/are taken from the Indexing Codes under C12Q2500/00 - C12Q2565/634.
- Orthogonal symbols C12Q 2500/00 - C12Q 2565/634 are only used as subsequent symbols in C-Sets and should not be allocated as single symbols.
- In the C-set, only the essential technical features of the invention, which differentiate it from the prior art, are to be represented.
- All indexing codes from groups C12Q 2500/00 - C12Q 2565/634 are to be used in the context literally expressed in the phrase ascribed to the code, i.e. the use of an indexing code is neither restricted by its hierarchical position in a group nor by the definition of the group in which the code is found.

C-Sets syntax rules:

- Each C-Set shall contain at least two symbols.
- Duplicate symbols are not allowed in these C-Sets.
- The order of symbols in the C-Sets is relevant as it reflects the methods or process as a base symbol and as a subsequent symbol, which are displayed in alphanumerical order.

C-Sets examples:

- #C12Nb: A method for inserting a gene of interest into a vector (C12N15/66) using a type IIS restriction enzyme (C12Q2521/313), and a ligase (C12Q2521/501) to attach an adaptor (C12Q2525/191) at each extremity of the gene of interest is classified as (C12N15/66, C12Q2521/313, C12Q2521/501, C12Q2525/191).

- #C12Nb: A method for preparing a vector (C12N15/64) comprising amplifying a template using strand-displacement rolling circle (C12Q2531/125) is classified as (C12N15/64, C12Q2531/125).

C12N 2310/00

References

<u>Delete</u>: The entire Limiting references section.

<u>Insert</u>: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Specific uses or applications	C12N 2320/00
Ways of production or obtention	C12N 2330/00

Special rules of classification

<u>Replace</u>: The existing Special rules of classification text with the following updated text.

The orthogonal Indexing symbols in this group are only to be used with groups C12N 15/11 - C12N 15/117.

The orthogonal Indexing symbols are only given to information relevant to the invention or explicitly exemplified, i.e. wish-lists are not indexed.

C-Sets classification:
C-Sets statement: #C12Nc
- In groups C12N2310/00 - C12N2310/533, a combination of features characterising the structure or type of the nucleic acid can be classified in the form of C-Sets when appropriate.

- In these C-Sets, the base symbol, representing the structure or type of the nucleic acid, is taken from the groups C12N2310/00 - C12N2310/533, followed by a subsequent symbol representing a further characteristic of said nucleic acid is selected from the groups C12N2310/00 - C12N2330/51.

C-Sets syntax rules:
- Each C-Set shall contain at least two symbols.
- Duplicate symbols are not allowed in these C-Sets.
- The C-Sets is allocated as ADD.
- The order of symbols in these C-Sets is not relevant.

C-Sets Examples:
#C12Nc: a nucleic acid that is modified at the 2'-OR position of the sugar by a methoxy-group: is classified as (C12N 2310/321, C12N 2310/3521)
#C12Nc: a nucleic acid that is halogenated at the 2'-R-position of the sugar is classified as (C12N 2310/322, C12N 2310/3533)
#C12Nc: a methylated adenosine is classified as (C12N 2310/333, C12N 2310/3521)
#C12Nc: an interfering RNA with a stem-loop structure, e.g. a shRNA is classified as (C12N 2310/14, C12N 2310/531)
#C12Nc: an antisense nucleic acid with an LNA - gapmer design is classified as (C12N2310/11, C12N 2310/3231, C12N 2310/341)

C-Sets searches:
C-Sets search queries may be made according to C-Sets classification rule #C12Nc described above.

C12N 2310/30

References

Delete: The entire Limiting references section.

Insert: The following two new references in the Informative references table.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Type of nucleic acids	C12N 2310/10
The physical structure of the nucleic acids	C12N 2310/50

C12N 2310/321

References

<u>Delete</u>: The entire Limiting references section.

<u>Insert</u>: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modified sugar ring structures	C12N 2310/323

C12N 2310/322

References

<u>Delete</u>: The entire Limiting references section.

<u>Insert</u>: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modified sugar ring structures	C12N 2310/323

C12N 2310/323

References

<u>Delete</u>: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modifications made at positions of the sugar not affecting the (deoxy)ribose nature	C12N 2310/321, C12N 2310/322

C12N 2310/33

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Nucleic acids where one or more base(s) is (are) missing	C12N 2310/332

C12N 2310/34

References

Delete: The entire Limiting references section.

Insert: The following new Informative references section.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Modifications of the backbone, sugars or bases per se	C12N 2310/31, C12N 2310/32, C12N 2310/33

C12N 2320/11

References

Delete: The entire Limiting references section.

Replace: The existing Informative references table with the following updated table.

Informative references

Attention is drawn to the following places, which may be of interest for search:

Assays involving nucleic acids	C12Q1/68
The use in functional genomics	C12N2320/12