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KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
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MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted
a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
- with sequence listing part of description (Rule 5.2(a))

(88) Date of publication of the international search report:
30 December 2009



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(54) Title: PHARMACEUTICAL COMPOSITIONS OF SOMATOSTATIN-DOPAMINE CONJUGATES

(57) Abstract: The present invention is directed to improvements in compositions containing a somatostatin- dopamine conjugate which retains both somatostatin and dopamine activity in vivo, methods for preparing such compositions, and method of using such compositions to treat mammals. In particular, the present invention relates to a pharmaceutical composition comprising Dop2-DLys(Dop2)- cyclo[Cys-Tyr-DTrp-Lys-Abu-Cys]-Thr-NH₂ (SEQ ID NO: 1), in which the somatostatin-dopamine conjugate precipitates in vivo at physiological pH to form an in situ deposit that is slowly dissolved and released into the body fluid and bloodstream. The present invention may further comprise an organic component such as dimethylacetamide (DMA) or polyethylene glycol with an average molecular weight of 400 (PEG400).

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 38/31 (2009.01)

USPC - 530/311

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 530/311

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 435/6; 514/2, 9 (see search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST(USPT,PGPB,EPAB,JPAB); GoogleScholar

Search somatostatin dopamine conjugate, polyethylene glycol, PEG400, dimethylacetamide, phospholipid, sugar, catecholamine neurotransmitter, tetradecapeptide, cyclodextrin, esters

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y ---- A	US 2006/0211607 A1 (CULLER et al.) 21 September 2006 (21.09.2006) para [0009], [0016], [0087], [0101], [0137], [0140]	1, 4-30 ----- 2-3
Y ---- A	US 2005/0159356 A1 (DONG et al.) 21 July 2005 (21.07.2005) Abstract; para [0183]	1, 4-30 ----- 2-3
Y	US 2006/0058221 A1 (MILLER) 16 March 2006 (16.03.2006) Abstract; para [0045]	5-11, 15-30
Y	US 5,707,648 A (YIV) 13 January 1998 (13.01.1998) col 4, ln 1-5; col 18, ln 60-67; col 19, ln 1-10	9 and 11
Y	US 2006/0034937 A1 (PATEL) 16 February 2006 (16.02.2006) para [0043], [0125]	10 and 16-17

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 September 2009 (23.09.2009)

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Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/02943

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.: 31-46
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
see extra sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
claims 1-30, limited to SEQ ID NO: 1.

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 09/02943

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0042753 A1 (YANG et al.) 24 February 2005 (24.02.2005) para [0458], [0580]	20
Y	US 2006/0292099 A1 (MILBURN et al.) 28 December 2006 (28.12.2006) para [1228], [1334]	21-22
Y	US 2006/0251726 A1 (LIN et al.) 9 November 2006 (09.11.2006) para [0155], [0162]	23-24
Y	US 2008/0039405 A1 (LANGLEY et al.) 14 February 2008 (14.02.2008) para [0071]	29-30

INTERNATIONAL SEARCH REPORT

International application No.

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This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Inventions 1-42, claims 1-30: somatostatin dopamine conjugates identified by SEQ ID NOs:1-42.

The inventions listed as Inventions 1-42 do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

SEQ ID NOs:1-42 do not share any significant structural element and cannot be considered as having the same or corresponding technical feature.

The inventions listed as Inventions 1-42 do not relate to a single general inventive concept under PCT Rule 13.1 because under PCT Rule 13.2 they lack the same or corresponding special technical feature. According to PCT Rule 13.2, unity of invention exists only when the same or corresponding technical feature is shared by all claimed inventions.

The different physical characteristics of the sequences represent distinct traits that are measured using different techniques and compared using different criteria. The different polypeptide sequences represented by the amino acid content of the species are different structures that are not common to one another but are different because they are composed of unique amino acid sequences.

In this case the first named invention and first named species that will be searched without additional fees is Group I represented by claims 1-30, limited to SEQ ID NO: 1.

In order for more than one species (invention) to be examined, the appropriate additional examination fees must be paid and the desired species clearly identified.

Claims 31-46 are improper multiple dependent claims because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).