

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2016/068738

## A. CLASSIFICATION OF SUBJECT MATTER

See extra sheet.

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)

C12N15/09, A61K39/395, A61K45/00, A61P9/10, A61P21/02, A61P21/04, A61P25/00, A61P25/14, A61P25/16, A61P25/18, A61P25/24, A61P25/28, A61P31/04, A61P31/12, A61P35/00, C07K14/475, C07K16/18, C07K16/28, C07K16/46, C07K19/00, C12N5/10,

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

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Kokai Jitsuyo Shinan Koho 1971-2016 Toroku Jitsuyo Shinan Koho 1994-2016

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

JSTPlus/JMEDPlus/JST7580(JDreamIII),  
Cplus/MEDLINE/EMBASE/BIOSIS/WPIDS(STN)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                    | Relevant to claim No. |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Y         | JP 05-500944 A (Alkermes, Inc.),<br>25 February 1993 (25.02.1993),<br>claim 1; example 14<br>& US 5527527 A<br>claim 1; example 14<br>& WO 1991/003259 A1 & EP 0490998 A1<br>& DE 69024057 C                                                                                                                                                          | 1-69                  |
| Y         | JP 2014-514313 A (Roche Glycart AG),<br>19 June 2014 (19.06.2014),<br>claim 1; example 2; fig. 7, 10a, 10b;<br>paragraphs [0129] to [0135], [0163]<br>& US 2012/0282176 A1<br>claim 1; example 2; fig. 7, 10a, 10b;<br>paragraphs [0132] to [0138], [0172], [0175]<br>& WO 2012/143379 A1 & EP 2699600 A1<br>& KR 10-2014-0031217 A & RU 2013150331 A | 1-69                  |

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

|                                                                                                                                                                         |                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| * Special categories of cited documents:                                                                                                                                | "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                                              |
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| "E" earlier application or patent but published on or after the international filing date                                                                               | "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 |
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| "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                                                                  |                                                                                                                                                                                                                                                  |

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PCT/JP2016/068738

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                                                                                | Relevant to claim No.  |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Y         | WO 2013/177062 A2 (F. HOFFMANN-LA ROCHE AG),<br>28 November 2013 (28.11.2013),<br>claim 7; example 7<br>& JP 2015-523336 A<br>claim 7; example 7<br>& US 2015/0353639 A1 & EP 2852618 A2<br>& IL 235806 A & KR 10-2015-0014503 A<br>& CN 104520325 A & MX 2014014166 A<br>& HK 1206369 A & TW 201400132 A                                                                                                         | 1-69                   |
| Y         | SADE H. et al., A Human Blood-Brain Barrier Transcytosis Assay Reveals Antibody Transcytosis Influenced by pH-Dependent Receptor Binding., PLoS One. [online], 2014, Vol.9, No.4, e96340 particularly, fig. 6, E-H, < <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4005765/pdf/pone.0096340.pdf">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4005765/pdf/pone.0096340.pdf</a> > [retrieved on 2016-08-18] | 1-69                   |
| Y         | FRIDEN PM. et al., Characterization, receptor mapping and blood-brain barrier transcytosis of antibodies to the human transferrin receptor., J Pharmacol Exp Ther., 1996, Vol.278, No.3, pp.1491-1498 particularly, abstract                                                                                                                                                                                      | 1-69                   |
| Y         | PARDRIDGE WM., Blood-brain barrier drug delivery of IgG fusion proteins with a transferrin receptor monoclonal antibody., Expert Opin Drug Deliv., 2015.02, Vol.12, No.2, pp.207-222 particularly, abstract, page 208, right column                                                                                                                                                                               | 1-69                   |
| Y         | WO 2015/009961 A1 (ARMAGEN TECHNOLOGIES),<br>22 January 2015 (22.01.2015),<br>claims 30 to 47<br>& US 2016/0152719 A1                                                                                                                                                                                                                                                                                             | 52-57, 59-61,<br>67-69 |
| P, X      | WO 2015/098989 A1 (JCR Pharmaceuticals Co., Ltd.),<br>02 July 2015 (02.07.2015),<br>(Family: none)                                                                                                                                                                                                                                                                                                                | 1-69                   |

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International application No.

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## Continuation of A. CLASSIFICATION OF SUBJECT MATTER (International Patent Classification (IPC))

C12N15/09(2006.01)i, A61K39/395(2006.01)i, A61K45/00(2006.01)i,  
A61P9/10(2006.01)i, A61P21/02(2006.01)i, A61P21/04(2006.01)i,  
A61P25/00(2006.01)i, A61P25/14(2006.01)i, A61P25/16(2006.01)i,  
A61P25/18(2006.01)i, A61P25/24(2006.01)i, A61P25/28(2006.01)i,  
A61P31/04(2006.01)i, A61P31/12(2006.01)i, A61P35/00(2006.01)i,  
C07K14/475(2006.01)i, C07K16/18(2006.01)i, C07K16/28(2006.01)i,  
C07K16/46(2006.01)i, C07K19/00(2006.01)i, C12N5/10(2006.01)i,  
C12N9/10(2006.01)i, C12N9/16(2006.01)i, C12N9/24(2006.01)i,  
C12N9/64(2006.01)i, C12N15/113(2010.01)i, C12P21/08(2006.01)n

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

## Continuation of B. FIELDS SEARCHED

Minimum documentation searched (International Patent Classification (IPC))

C12N9/10, C12N9/16, C12N9/24, C12N9/64, C12N15/113, C12P21/08

Minimum documentation searched (classification system followed by  
classification symbols)