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SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 21 83 83 59

Classification of the application (IPC):
A61K 38/48*, *A61P 31/14*, *A61K 39/00*, *C12N 9/48*, *C12N 15/12*, *C12N 15/79*, *C12N 15/62

Technical fields searched (IPC):
A61P, A61K, C07K, C12N

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X,P	**LIU PAN ET AL**: "Designed variants of ACE2-Fc that decouple anti-SARS-CoV-2 activities from unwanted cardiovascular effects" *INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, ELSEVIER BV, NL*, 17 October 2020 (2020-10-17), vol. 165, DOI: 10.1016/J.IJBIOMAC.2020.10.120, ISSN: 0141-8130, pages 1626-1633, XP086393213 * abstract * * paragraph [02.1] - paragraph [02.2] * * paragraph [03.1] - paragraph [03.3] * * figures 1, 2 *	1-15
X,P	**IWANAGA NAOKI ET AL**: "Novel ACE2-IgG1 fusions with improved in vitro and invivo activity against SARS-CoV2" *BIORXIV*, 24 July 2020 (2020-07-24), pages 1-21, XP055811165 * abstract * * page 3, paragraph 2 - page 4, paragraph 1 * * Methods *	1-15
X	**CHANGHAI LEI**: "Neutralization of SARS-CoV-2 spike pseudotyped virus by recombinant ACE2-Ig" *NATURE COMMUNICATIONS* UK 24 April 2020 (2020-04-24), vol. 11, no. 1, DOI: 10.1038/s41467-020-16048-4, ISSN: 2041-1723, XP093157876 * abstract * * page 2, left-hand column, paragraph 4 line 8 to page 2 right-hand column, paragraph 1 * * Methods, Generation of fusion proteins *	1-15
X	US 6989363 B1 (ACTON SUSAN L [US] ET AL) 24 January 2006 (2006-01-24) * column 35, line 51 - column 36, line 4 * * claims 1-14 * * column 5, paragraph 4 * * column 23, paragraphs 4, 5 * * paragraph [4.3.3] *	1-15

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search	Date of completion of the search	Examiner
The Hague	09 May 2024	Bladier, Cecile

CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A: technological background
O: non-written disclosure
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T: theory or principle underlying the invention
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DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
E	WO 2021205183 A1 (FERRARI MATHIEU [GB] ET AL) 14 October 2021 (2021-10-14) * page 33, line 7 - page 35, line 26 * * examples 11,17 *	1-15
E	WO 2022006601 A1 (JIN JING [US] ET AL) 06 January 2022 (2022-01-06) * paragraphs [0043], [0055], [0056], [0059] - [0062], [0083] - [0086] *	1-15
E	WO 2021236957 A2 (BAILEY CHARLES C [US] ET AL) 25 November 2021 (2021-11-25) * paragraphs [0012], [0043] - [0045], [0148], [0149], [0244] * * claims 12, 70-72 *	1-15
E	WO 2022020353 A2 (TORCHIA JAMES [US] ET AL) 27 January 2022 (2022-01-27) * Summary of the invention * * table 1 *	1-15

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

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LACK OF UNITIY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-15
An isolated angiotensin converting enzyme 2 (ACE2) polypeptide with at least the mutation H374 relative to the wild-type ACE2 that causes the loss of ACE2 enzymatic activity comparing to the wild-type ACE2; and related embodiments.

1.1. claims: 1-15(partially)
An isolated angiotensin converting enzyme 2 (ACE2) polypeptide with at least the mutation E375 relative to the wild-type ACE2 that causes the loss of ACE2 enzymatic activity comparing to the wild-type ACE2; and related embodiments.

1.2. claims: 1-15(partially)
An isolated angiotensin converting enzyme 2 (ACE2) polypeptide with at least the mutation H378 relative to the wild-type ACE2 that causes the loss of ACE2 enzymatic activity comparing to the wild-type ACE2; and related embodiments.

1.3. claims: 1-15(partially)
An isolated angiotensin converting enzyme 2 (ACE2) polypeptide with at least the mutation E402 relative to the wild-type ACE2 that causes the loss of ACE2 enzymatic activity comparing to the wild-type ACE2; and related embodiments.

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search	Date of completion of the search	Examiner
The Hague	09 May 2024	Bladier, Cecile

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ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on 09-05-2024
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