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(71) Applicant: UNIVERSITY OF PITTSBURGH - OF THE COMMONWEALTH SYSTEM OF HIGHER EDUCATION [US/US]; 200 Gardner Steel Conference Center, Pittsburgh, PA 15260 (US).

(72) Inventors: RANAYHOSSAINI, Daniel, J.; 2329 Eldridge Street, Pittsburgh, PA 15217 (US). PAGANO, Patrick, Joseph; 1408 Mystic Valley Drive, Sewickley, PA 15143 (US).

(74) Agents: KOLE, Lisa, B. et al.; Baker Botts L. L. P., 30 Rockefeller Plaza, New York, NY 10112-4498 (US).

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(54) Title: NOVEL INHIBITORS OF NOX1

P67phox: 190-VAQLAKKDYLKAT VV SVVD -209

NOXA1: 191-LKHLEPVDFLGKAK VV ASAI -210

FIG. 1A

(57) Abstract: The present invention relates to inhibitors of Nox1-dependent reactive oxygen species production and their use in the treatment of disorders associated with reactive oxygen species, such as hypertension and cancer.



WO 2013/074816 A3

A. CLASSIFICATION OF SUBJECT MATTER

A61K 38/08(2006.01)i, A61K 38/17(2006.01)i, A61K 39/395(2006.01)i, A61P 35/00(2006.01)i

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)

A61K 38/08; C07K 7/08; C12N 15/09

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: Nox1, inhibitor

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GIANNI, D. et al., `A novel and specific NADPH oxidase-1 (Nox1) small-molecule inhibitor blocks the formation of functional invadopodia in human colon cancer cells`, ACS Chemical Biology, 2010, Vol. 5, No. 10, pp. 981-993. See the whole document.	1-10, 21-28
A	JP 2005-168329 A (HOKKAIDO UNIV.) 30 June 2005 See claims 1 and 3.	1-10, 21-28
A	REY, F. E. et al., `Novel competitive inhibitor of NAD(P)H oxidase assembly attenuates vascular O ₂ (-) and systolic blood pressure in mice`, Circulation Research, 2001, Vol. 89, pp. 408-414. See the whole document.	1-10, 21-28
A	DIATCHUK, V. et al., `Inhibition of NADPH oxidase activation by 4-(2-aminoethyl)-benzenesulfonyl fluoride and related compounds`, The Journal of Biological Chemistry, 1997, Vol. 272, No. 20, pp. 13292-13301. See the whole document.	1-10, 21-28

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

* 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 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

30 May 2013 (30.05.2013)

Date of mailing of the international search report

30 May 2013 (30.05.2013)

Name and mailing address of the ISA/KR


 Korean Intellectual Property Office
 189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City,
 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHOI, Sung Hee

Telephone No. 82-42-481-8740



INTERNATIONAL SEARCH REPORTInternational application No.
PCT/US2012/065322

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JAQUET, V. et al., `NADPH oxidase (NOX) isoforms are inhibited by celastrol with a dual mode of action`, British Journal of Pharmacology, 28 August 2011, Vol. 164, pp. 507-520. See the whole document.	1-10, 21-28

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.: 11-20
because they relate to subject matter not required to be searched by this Authority, namely:

Claims 11 to 20 pertain to methods for treatment of the human body by therapy and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

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.: 20
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:

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 an additional fee, this Authority did not invite payment of any additional fee.
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.:

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

Information on patent family members

International application No.
PCT/US2012/065322

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2005-168329 A	30.06.2005	None	