

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 March 2009 (05.03.2009)

PCT

(10) International Publication Number
WO 2009/027452 A3

- (51) **International Patent Classification:**
A61K 51/00 (2006.01) *A61K 47/26* (2006.01)
- (21) **International Application Number:**
PCT/EP2008/061275
- (22) **International Filing Date:**
28 August 2008 (28.08.2008)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
60/968,904 30 August 2007 (30.08.2007) US
- (71) **Applicant (for all designated States except US):** **GE HEALTHCARE LIMITED** [GB/GB]; Amersham Place, Little Chalfont Buckinghamshire HP7 9NA (GB).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **ROED, Line** [NO/NO]; Ge Healthcare As, Nycoveien 1-2, Postboks 4220, N-0401 Oslo (NO). **PETERSON, Sarah, Elizabeth** [GB/GB]; GE Healthcare, The Grove Centre, White Lion Road, Amersham Buckinghamshire HP7 9LL (GB).
- (74) **Agent:** **HAMMETT, Audrey, Grace, Campb;** GE Healthcare Limited, Amersham Place, Little Chalfont Buckinghamshire HP7 9NA (GB).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM,

AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

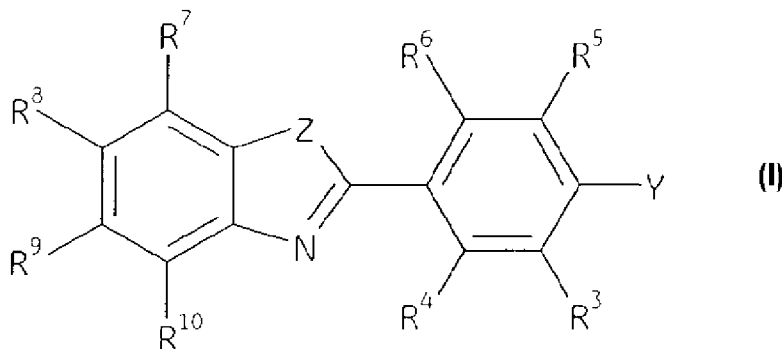
(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) **Date of publication of the international search report:**
3 September 2009

(54) **Title:** RADIOPHARMACEUTICAL COMPOSITION



(57) **Abstract:** The present invention relates to radiopharmaceuticals and in particular to a radiopharmaceutical composition comprising a compound of Formula (I): and polysorbate as an excipient. The radiopharmaceutical composition of the invention reduces problems encountered with prior art compositions comprising the same class of compounds. Also provided by the invention is a method for the preparation of the radiopharmaceutical composition of the invention as well as particular uses of the radiopharmaceutical composition.

WO 2009/027452 A3

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/061275

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61K51/00 A61K47/26

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

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

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

EPO-Internal, WPI Data, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | WO 2007/064773 A (UNIV PITTSBURGH [US]; KLUNK WILLIAM E [US]; MATHIS CHESTER A JR [US]) 7 June 2007 (2007-06-07) Claims 1, 10-13; page 19 line 5 ----- | 1-21 |
| Y | EP 0 017 355 A (AMERSHAM INT PLC [GB]) 15 October 1980 (1980-10-15) Page 2 line 27-page 4 line 4; page 6 line 9. ----- | 1-21 |
| Y | WO 2006/014381 A (UNIV PITTSBURGH [US]; KLUNK WILLIAM E [US]; MATHIS CHESTER A JR [US]) 9 February 2006 (2006-02-09) Claims 1, 17 ----- | 1-21 |
| | ----- -/-- | |

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 document 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

16 July 2009

Date of mailing of the international search report

24/07/2009

Name and mailing address of the ISA/
European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Bettio, Andrea

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2008/061275

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | ZHUANG Z-P ET AL: "IBOX(2-(4'-dimethylaminophenyl)-6-iodoben zoxazole): a ligand for imaging amyloid plaques in the brain" NUCLEAR MEDICINE AND BIOLOGY, ELSEVIER, NY, US, vol. 28, no. 8, 1 November 2001 (2001-11-01), pages 887-894, XP004322406 ISSN: 0969-8051 Abstract, page 889 scheme 1 ----- | 1-21 |
| Y | WO 2007/002540 A (KUNG HANK F [US]) 4 January 2007 (2007-01-04) Pages 10 -14 ----- | 1-21 |
| Y | WU ET AL: "Dibenzothiazoles as novel amyloid-imaging agents" BIOORGANIC & MEDICINAL CHEMISTRY, ELSEVIER SCIENCE LTD, GB, vol. 15, no. 7, 12 March 2007 (2007-03-12), pages 2789-2796, XP005922468 ISSN: 0968-0896 Page 2790 Figure 2 ----- | 1-21 |
| E | WO 2008/134618 A (GEN HOSPITAL CORP [US]; ELMALEH DAVID R [US]; SHOUP TIMOTHY [US]; FISC) 6 November 2008 (2008-11-06) Claim 1 ; page 25 line 28, page 31 line 4, page 52 line 10, claim 45 ----- | 1-21 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/061275

| Patent document cited in search report | A | Publication date | | Patent family member(s) | Publication date |
|--|---|------------------|----|-------------------------|------------------|
| WO 2007064773 | A | 07-06-2007 | AU | 2006320556 A1 | 07-06-2007 |
| | | | CA | 2631905 A1 | 07-06-2007 |
| | | | CN | 101351458 A | 21-01-2009 |
| | | | EP | 1971584 A2 | 24-09-2008 |
| | | | JP | 2009519239 T | 14-05-2009 |
| | | | US | 2009142269 A1 | 04-06-2009 |
| <hr/> | | | | | |
| EP 0017355 | A | 15-10-1980 | DE | 3062496 D1 | 05-05-1983 |
| | | | JP | 1238496 C | 31-10-1984 |
| | | | JP | 55129229 A | 06-10-1980 |
| | | | JP | 59014452 B | 04-04-1984 |
| | | | US | 4335095 A | 15-06-1982 |
| <hr/> | | | | | |
| WO 2006014381 | A | 09-02-2006 | AU | 2005270026 A1 | 09-02-2006 |
| | | | BR | PI0512893 A | 15-04-2008 |
| | | | CA | 2587248 A1 | 09-02-2006 |
| | | | CN | 101137397 A | 05-03-2008 |
| | | | EP | 1771208 A2 | 11-04-2007 |
| | | | JP | 2008505115 T | 21-02-2008 |
| | | | US | 2008219931 A1 | 11-09-2008 |
| <hr/> | | | | | |
| WO 2007002540 | A | 04-01-2007 | AU | 2006261917 A1 | 04-01-2007 |
| | | | CA | 2617319 A1 | 04-01-2007 |
| | | | EP | 1893245 A2 | 05-03-2008 |
| | | | JP | 2008546804 T | 25-12-2008 |
| <hr/> | | | | | |
| WO 2008134618 | A | 06-11-2008 | US | 2008267879 A1 | 30-10-2008 |