

Title (en)

FLUORESCENCE-BASED ASSAY FOR DETECTING COMPOUNDS FOR MODULATING THE SODIUM-CALCIUM EXCHANGER (NCX) IN FORWARD MODE

Title (de)

FLUORESzenz-BASIERTES ASSAY ZUM ERKENNEN VON VERBINDUNGEN ZUM MODULIEREN DES Natrium-CALCIUM-AUSTAUSCHERS (NCX) IM "VORWÄRTSMODUS"

Title (fr)

DOSAGE BIOLOGIQUE A BASE DE FLUORESCENCE POUR L'IDENTIFICATION DE COMPOSES MODULANT L'ECHANGEUR DE SODIUM-CALCIUM (NCX) DANS LE "MODE D'AVANCEMENT"

Publication

**EP 2135092 A1 20091223 (DE)**

Application

**EP 08716226 A 20080304**

Priority

- EP 2008001707 W 20080304
- DE 102007011913 A 20070313

Abstract (en)

[origin: WO2008110285A1] Carriers are an up-and-coming target family with enormous potential and offer commercial and scientific possibilities. The sodium/calcium exchanger is an important mechanism for the removal of Ca<sup>2+</sup> from various cells. In the heart, said sodium/calcium exchanger extrudes Ca<sup>2+</sup>, which has entered through Ca<sup>2+</sup> channels for the initiation of contractions, while Na<sup>+</sup> enters the heart cell. It is of considerable interest to identify compounds that modulate the activity of the sodium/calcium exchanger. The present invention relates to a fluorescence-based assay for the detection of compounds for modulating the NCX in "forward mode." The invention further relates to a parts set comprising cells that express NCX and to the use of said parts set for testing a compound for activity as an agonist or antagonist of NCX.

IPC 8 full level

**G01N 33/68** (2006.01)

CPC (source: EP KR US)

**G01N 33/6872** (2013.01 - EP KR US); **G01N 2500/10** (2013.01 - EP KR US)

Citation (search report)

See references of WO 2008110285A1

Citation (examination)

- EP 1241260 A1 20020918 - MILLENIUM PHARMACEUTICALS INC [US]
- US 2005112701 A1 20050526 - ARNDT PETRA [DE], et al
- FANG Y ET AL: "Na+-Ca<sup>2+</sup> exchange and Ca<sup>2+</sup> efflux in transfected Chinese hamster ovary cells", CELL CALCIUM (EDINBURGH), CHURCHILL LIVINGSTONE MEDICAL JOURNALS, EDINBURGH, GB LNKD- DOI:10.1054/CECA.1999.0046, vol. 26, no. 1-2, 1 July 1999 (1999-07-01), pages 15 - 24, XP002488828, ISSN: 0143-4160
- TASHIRO M ET AL: "Transport of magnesium by two isoforms of the Na+-Ca<sup>2+</sup> exchanger expressed in CCL39 fibroblasts", 1 October 2000, PFLUEGERS ARCHIV: EUROPEAN JOURNAL OF PHYSIOLOGY, SPRINGER VERLAG, BERLIN, DE LNKD- DOI:10.1007/S004240000384, PAGE(S) 819 - 827, ISSN: 0031-6768, XP002488829
- RESENDES M C ET AL: "Nitrous oxide enhances Na+/Ca++ exchange in the neuroblastoma cell line SK-N-SH", JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, AMERICAN SOCIETY FOR PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, US, vol. 280, no. 2, 1 February 1997 (1997-02-01), pages 795 - 801, XP002488830, ISSN: 0022-3565
- HUNTON DACIA L ET AL: "Adult rat cardiomyocytes exhibit capacitative calcium entry", AMERICAN JOURNAL OF PHYSIOLOGY: HEART AND CIRCULATORY PHYSIOLOGY, AMERICAN PHYSIOLOGICAL SOCIETY, US LNKD- DOI:10.1152/AJPHEART.00162.2003, vol. 286, no. 3, 1 March 2004 (2004-03-01), pages H1124 - H1132, XP002488831, ISSN: 0363-6135
- TAKAHIRO IWAMOTO: "Forefront of Na + / Ca 2+ Exchanger Studies: Molecular Pharmacology of Na + /Ca 2+ Exchange Inhibitors", JOURNAL OF PHARMACOLOGICAL SCIENCES 2004 THE JAPANESE PHARMACOLOGICAL SOCIETY FORUM MINIREVIEW J PHARMACOL SCI, 1 January 2004 (2004-01-01), pages 27 - 32, XP055100233
- KIEDROWSKI LECH ET AL: "Differential contribution of plasmalemmal Na/Ca exchange isoforms to sodium-dependent calcium influx and NMDA excitotoxicity in depolarized neurons", JOURNAL OF NEUROCHEMISTRY, WILEY INTERSCIENCE, NEW YORK, NY, US, vol. 90, no. 1, 1 July 2004 (2004-07-01), pages 117 - 128, XP002488542, ISSN: 0022-3042, DOI: 10.1111/J.1471-4159.2004.02462.X

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2008110285 A1 20080918**; AR 065685 A1 20090624; AU 2008226101 A1 20080918; AU 2008226101 B2 20130919;  
BR PI0809076 A2 20141104; CA 2680768 A1 20080918; CN 101636658 A 20100127; DE 102007011913 A1 20081023;  
EP 2135092 A1 20091223; IL 200789 A0 20100517; JP 2010520759 A 20100617; KR 20090122287 A 20091126; MX 2009009681 A 20090924;  
TW 200907340 A 20090216; US 2010151497 A1 20100617

DOCDB simple family (application)

**EP 2008001707 W 20080304**; AR P080100992 A 20080311; AU 2008226101 A 20080304; BR PI0809076 A 20080304;  
CA 2680768 A 20080304; CN 200880008156 A 20080304; DE 102007011913 A 20070313; EP 08716226 A 20080304; IL 20078909 A 20090907;  
JP 2009553042 A 20080304; KR 20097021351 A 20080304; MX 2009009681 A 20080304; TW 97108417 A 20080311; US 52923008 A 20080304