

Title (en)  
KILLING HUMAN LYMPHOMA AND LEUKEMIA CANCER CELLS AND TCR-ACTIVATED NORMAL HUMAN CELLS BY DOPAMINE D1R AGONISTS

Title (de)  
ABTÖTEN HUMANER LYMPHOM- UND LEUKÄMIE-KREBSZELLEN SOWIE TCR-AKTIVIERTER NORMALER HUMANER ZELLEN DURCH DOPAMIN-D1R-AGONISTEN

Title (fr)  
ELIMINATION DES CELLULES CANCÉREUSES HUMAINES DU LYMPHOME ET DE LA LEUCÉMIE ET DES CELLULES HUMAINES NORMALES ACTIVÉES PAR LE TCR AU MOYEN D'AGONISTES DE LA DOPAMINE D1R

Publication  
**EP 1917277 A4 20090805 (EN)**

Application  
**EP 06800733 A 20060803**

Priority  

- US 2006030360 W 20060803
- US 70472905 P 20050803

Abstract (en)  

[origin: WO2007019267A1] Blocking the voltage-gated potassium channel Kv1.1 of T-cells causes the robust and exclusive production of TNF- $\alpha$ , and thus can be used for eradication of cancer, improved eradication of infectious organisms, increased permeability of blood vessels and the blood brain barriers to given molecules and cells, and improved neuronal features, regeneration function and development. Blocking the voltage-gated potassium channel Kv1.1 of T-cells causes the robust and exclusive production of TNF- $\alpha$ . Similarly, unblocking of a blocked Kv1.1 channel or opening of a Kv1.1 channel will prevent the T-cells from producing and secreting excess amounts of TNF- $\alpha$ , thus being useful in the treatment of conditions such as rheumatoid arthritis and for treating neurological diseases associated with defected functioning and/or pathological block of the Kv1.1 channel, among them PNH associated with Kv1 Abs; Encephalitis associated with Kv1 Abs; and Episodic-ataxia type 1 (EA-1), in all of which the T-cell blocked Kv1.1 channel may secrete excess TNF $\alpha$  and thereby contribute to the pathology. Blocking of the Kv1.1 channel may be achieved in vivo or ex vivo by contact with a selective Kv1.1 channel blocking molecule such as Dendrotoxin-K or a selective monoclonal antibody against the Kv1.1 channel. Preventing the Kv1.1. block would be achieved by Kv1.1 openers, or by molecules that would prevent the closure of the Kv1.1 channel.

IPC 8 full level  
**C07K 14/705** (2006.01)

CPC (source: EP)  
**A61K 35/58** (2013.01); **A61K 38/1703** (2013.01); **C07K 16/28** (2013.01)

Citation (search report)  

- [X] WO 2004103262 A2 20041202 - YEDA RES & DEV [IL], et al
- [X] US 2005054652 A1 20050310 - CINCOTTA ANTHONY H [US]
- [X] JOHNSON D E ET AL: "The growth inhibitory properties of a dopamine agonist (SKF 38393) on MCF-7 cells", ANTI-CANCER DRUGS, RAPID COMMUNICATIONS, OXFORD, vol. 6, no. 3, 1 January 1995 (1995-01-01), pages 471 - 474, XP009118427, ISSN: 0959-4973
- [XY] LIANG Y ET AL: "Bromocriptine/SKF38393 ameliorates islet dysfunction in the diabetic (db/db) mouse", CMLS CELLULAR AND MOLECULAR LIFE SCIENCES, BIRKHAUSER VERLAG, HEIDELBERG, DE, vol. 54, no. 7, 1 July 1998 (1998-07-01), pages 703 - 711, XP009118426, ISSN: 1420-682X
- [X] DEVOINO L V ET AL: "Changes in the immune reaction of animals under conditions of drug-induced activation and blockade of D1 dopamine receptors", EXPERIMENTAL AND CLINICAL PHARMACOLOGY - EKSPERIMENTAL'NAA IKLINICESKAA FARMACOLOGIA, MOSCOW, vol. 67, no. 3, 1 May 2004 (2004-05-01), pages 48 - 50, XP009118367, ISSN: 0869-2092
- [X] MATHUR VANDANA S: "The role of the DA1 receptor agonist fenoldopam in the management of critically ill, transplant, and hypertensive patients", REVIEWS IN CARDIOVASCULAR MEDICINE, vol. 4, no. Suppl1, 2003, pages S35 - S40, XP009118378
- [XY] MURPHY MICHAEL B ET AL: "Fenoldopam: A selective peripheral dopamine-receptor agonist for the treatment of severe hypertension", NEW ENGLAND JOURNAL OF MEDICINE, THE, MASSACHUSETTS MEDICAL SOCIETY, WALTHAM, MA, US, vol. 345, no. 21, 22 November 2001 (2001-11-22), pages 1548 - 1557, XP009118469, ISSN: 0028-4793
- [XY] ACQUAS E ET AL: "The potent and selective dopamine D1 receptor agonist A-77636 increases cortical and hippocampal acetylcholine release in the rat", EUROPEAN JOURNAL OF PHARMACOLOGY, ELSEVIER BV, NL, vol. 260, no. 1, 21 July 1994 (1994-07-21), pages 85 - 87, XP023749962, ISSN: 0014-2999, [retrieved on 19940721]
- See references of WO 2007019266A2

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2007019267 A1 20070215**; EP 1917277 A2 20080507; EP 1917277 A4 20090805

DOCDB simple family (application)  
**US 2006030361 W 20060803**; EP 06800733 A 20060803