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(71) Applicant: **Intreat Pty Limited**
Sydney, NSW 2000 (AU)

(72) Inventors:
• **Gidley-Baird, Angus**
North Ryde, New South Wales 2113 (AU)
• **Barden, Julian Alexander**
Marsfield, New South Wales 2122 (AU)

(74) Representative: **MacLean, Martin Robert et al**
Mathys & Squire LLP
120 Holborn
London
EC1N 2SQ (GB)

(54) **Diagnosis and treatment of cancers and other conditions**

(57) There is provided an isolated P2X₇ receptor,
comprising an amino acid sequence having homology to
the sequence shown in Figure 1, wherein the amino acid
sequence of the isolated P2X₇ receptor contains a pro-
line corresponding to proline 210 shown in Figure 1, said
proline being in a cis conformation.

1 MET-PRO-ALA-CYS-CYS-SER-CYS-SER-ASP-VAL-PHE-GLN-TYR-GLU-THR-ASN-LYS-VAL-THR-ARG
2 ILE-GLN-SER-MET-ASN-TYR-GLY-THR-ILE-LYS-TRP-PHE-PHE-HIS-VAL-ILE-ILE-PHE-SER-TYR
41 VAL-CYS-PHE-ALA-LEU-VAL-SER-ASP-LYS-LEU-TYR-GLN-ARG-LYS-GLU-PRO-VAL-ILE-SER-SER
61 VAL-HIS-THR-LYS-VAL-LYS-GLY-ILE-ALA-GLU-VAL-LYS-GLU-GLU-ILE-VAL-GLU-ASN-GLY-VAL
81 LYS-LYS-LEU-VAL-HIS-SER-VAL-PHE-ASP-THR-ALA-ASP-TYR-THR-PHE-PRO-LEU-GLN-GLY-ASN
101 SER-PHE-PHE-VAL-MET-THR-ASN-PHE-LEU-LYS-THR-GLU-GLY-GLN-GLU-GLN-ARG-LEU-CYS-PRO
121 GLU-TYR-PRO-THR-ARG-ARG-THR-LEU-CYS-SER-SER-ASP-ARG-GLY-CYS-LYS-LYS-GLY-TRP-MET
141 ASP-PRO-GLN-SER-LYS-GLY-ILE-GLN-THR-GLY-ARG-CYS-VAL-VAL-HIS-GLU-GLY-ASN-GLN-LYS
161 THR-CYS-GLU-VAL-SER-ALA-TRP-CYS-PRO-ILE-GLU-ALA-VAL-GLU-GLU-ALA-PRO-ARG-PRO-ALA
181 LEU-LEU-ASN-SER-ALA-GLU-ASN-PHE-THR-VAL-LEU-ILE-LYS-ASN-ASN-ILE-ASP-PHE-PRO-GLY
201 HIS-ASN-TYR-THR-THR-ARG-ASN-ILE-LEU-PRO-GLY-LEU-ASN-ILE-THR-CYS-THR-PHE-HIS-LYS
221 THR-GLN-ASN-PRO-GLN-CYS-PRO-ILE-PHE-ARG-LEU-GLY-ASP-ILE-PHE-ARG-GLU-THR-GLY-ASP
241 ASN-PHE-SER-ASP-VAL-ALA-ILE-GLN-GLY-GLY-ILE-MET-GLY-ILE-GLU-ILE-TYR-TRP-ASP-CYS
261 ASN-LEU-ASP-ARG-TRP-PHE-HIS-CYS-HIS-PRO-LYS-TYR-SER-PHE-ARG-ARG-LEU-ASP-ASP
281 LYS-THR-THR-ASN-VAL-SER-LEU-TYR-PRO-GLY-TYR-ASN-PHE-ARG-TYR-ALA-LYS-TYR-TYR-LYS
301 GLU-ASN-ASN-VAL-GLU-LYS-ARG-THR-LEU-ILE-LYS-VAL-PHE-GLY-ILE-ARG-PHE-ASP-ILE-LEU
321 VAL-PHE-GLY-THR-GLY-GLY-LYS-PHE-ASP-ILE-ILE-GLN-LEU-VAL-VAL-TYR-ILE-GLY-SER-THR
341 LEU-SER-TYR-PHE-GLY-LEU-ALA-ALA-VAL-PHE-ILE-ASP-PHE-LEU-ILE-ASP-THR-TYR-SER-SER
361 ASN-CYS-CYS-ARG-HIS-HIS-ILE-TYR-PRO-TRP-CYS-LYS-CYS-CYS-GLN-PRO-CYS-VAL-VAL-ASN
381 GLU-TYR-TYR-TYR-ARG-LYS-LYS-CYS-GLU-SER-ILE-VAL-GLU-PRO-LYS-PRO-THR-LEU-LYS-TYR
401 VAL-SER-PHE-VAL-ASP-GLU-SER-HIS-ILE-ARG-MET-VAL-ASN-GLN-GLN-LEU-LEU-GLY-ARG-SER
421 LEU-GLN-ASP-VAL-LYS-GLY-GLN-GLU-VAL-PRO-ARG-PRO-ALA-MET-ASP-PHE-THR-ASP-LEU-SER
441 ARG-LEU-PRO-LEU-ALA-LEU-HIS-ASP-THR-PRO-PRO-ILE-PRO-GLY-GLN-PRO-GLU-GLU-ILE-GLN
461 LEU-LEU-ARG-LYS-GLU-ALA-THR-PRO-ARG-SER-ARG-ASP-SER-PRO-VAL-TRP-CYS-GLN-CYS-GLY
481 SER-CYS-LEU-PRO-SER-GLN-LEU-PRO-GLU-SER-HIS-ARG-CYS-LEU-GLU-GLU-LEU-CYS-CYS-ARG
501 LYS-LYS-PRO-GLY-ALA-CYS-ILE-THR-THR-SER-GLU-LEU-PHE-ARG-LYS-LEU-VAL-LEU-SER-ARG
521 HIS-VAL-LEU-GLN-PHE-LEU-LEU-LEU-TYR-GLN-GLU-PRO-LEU-LEU-ALA-LEU-ASP-VAL-ASP-SER
541 THR-ASN-SER-ARG-LEU-ARG-HIS-CYS-ALA-TYR-ARG-CYS-TYR-ALA-THR-TRP-ARG-PHE-GLY-SER
561 GLN-ASP-MET-ALA-ASP-PHE-ALA-ILE-LEU-PRO-SER-CYS-CYS-ARG-TRP-ARG-ILE-ARG-LYS-GLU
581 PHE-PRO-LYS-SER-GLU-GLY-GLN-TYR-SER-GLY-PHE-LYS-SER-PRO-TYR

FIGURE 1

Sequence of human P2X₇ receptor.

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European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 08 15 6593

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 6 133 434 A (BUELL GARY NUTTER [CH] ET AL) 17 October 2000 (2000-10-17) SEQ ID NO. 20	1-3	INV. C07K14/705 C07K16/28 A61K39/395 A61P35/00 A61P1/00
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A	----- FERRARI D ET AL: "ATP-mediated cytotoxicity in microglial cells" NEUROPHARMACOLOGY, PERGAMON PRESS, OXFORD, GB, vol. 36, no. 9, 1 January 1997 (1997-01-01), pages 1295-1301, XP002990450 ISSN: 0028-3908 * the whole document *	1-20	TECHNICAL FIELDS SEARCHED (IPC) C07K
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 18 September 2008	Examiner Page, Michael
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 P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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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

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	癌症和其他疾病的诊断和治疗		
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当前申请(专利权)人(译)	求求PTY LIMITED		
[标]发明人	GIDLEY BAIRD ANGUS BARDEN JULIAN ALEXANDER		
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其他公开文献	EP1961767A2 EP1961767B1		
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摘要(译)

提供了分离的P2X₇受体，其包含与图1所示序列具有同源性的氨基酸序列，其中分离的P2X₇受体的氨基酸序列含有对应于图1中所示的脯氨酸210的脯氨酸，所述脯氨酸位于顺式构象。

1 MET-PRO-ALA-CYS-CYS-SER-CYS-SER-ASP-VAL-PHE-GLN-TYR-GLU-THR-ASN-LYS-VAL-THR-ARG
211LE-GLN-SER-MET-ASN-TYR-GLY-THR-ILE-LYS-TRP-PHE-PHE-HIS-VAL-ILE-ILE-PHE-SER-TYR
41VAL-CYS-PHE-ALA-LEU-VAL-SER-ASP-LYS-LEU-TYR-GLN-ARG-LYS-GLU-PRO-VAL-ILE-SER-SER
61VAL-HIS-THR-LYS-VAL-LYS-GLY-ILE-ALA-GLU-VAL-LYS-GLU-GLU-ILE-VAL-GLU-ASN-GLY-VAL
81LYS-LYS-LEU-VAL-HIS-SER-VAL-PHE-ASP-THR-ALA-ASP-TYR-THR-PHE-PRO-LEU-GLN-GLY-ASN
101SER-PHE-PHE-VAL-MET-THR-ASN-PHE-LEU-LYS-THR-GLU-GLY-GLN-GLU-GLN-ARG-LEU-CYS-PRO
121 GLU-TYR-PRO-THR-ARG-ARG-THR-LEU-LYS-SER-SER-ASP-ARG-GLY-CYS-LYS-LYS-GLY-TRP-MET
141 ASP-PRO-GLN-SER-LYS-GLY-ILE-GLN-THR-GLY-ARG-CYS-VAL-VAL-HIS-GLU-GLY-ASN-GLN-LYS
161THR-CYS-GLU-VAL-SER-ALA-TRP-CYS-PRO-ILE-GLU-ALA-VAL-GLU-GLU-ALA-PRO-ARG-PRO-ALA
181 LEU-LEU-ASN-SER-ALA-GLU-ASN-PHE-THR-VAL-LEU-ILE-LYS-ASN-ASN-ILE-ASP-PHE-PRO-GLY
201 HBS-ASN-TYR-THR-THR-ARG-ASN-ILE-LEU-PRO-GLY-LEU-ASN-ILE-THR-CYS-THR-PHE-HIS-LYS
221 THR-GLN-ASN-PRO-GLN-CYS-PRO-ILE-PHE-ARG-LEU-GLY-ASP-ILE-PHE-ARG-GLU-THR-GLY-ASP
241 ASN-PHE-SER-ASP-VAL-ALA-ILE-GLN-GLY-GLY-ILE-MET-GLY-ILE-GLU-ILE-TYR-TRP-ASP-CYS
261 ASN-LEU-ASP-ARG-TRP-PHE-HIS-HIS-CYS-HIS-PRO-LYS-TYR-SER-PHE-ARG-ARG-LEU-ASP-ASP
281 LYS-THR-THR-ASN-VAL-SER-LEU-TYR-PRO-GLY-TYR-ASN-PHE-ARG-TYR-ALA-LYS-TYR-TYR-LYS
301 GLU-ASN-ASN-VAL-GLU-LYS-ARG-THR-LEU-ILE-LYS-VAL-PHE-GLY-ILE-ARG-PHE-ASP-ILE-LEU
321 VAL-PHE-GLY-THR-GLY-GLY-LYS-PHE-ASP-ILE-ILE-GLN-LEU-VAL-VAL-TYR-ILE-GLY-SER-THR
341 LEU-SER-TYR-PHE-GLY-LEU-ALA-ALA-VAL-PHE-ILE-ASP-PHE-LEU-ILE-ASP-THR-TYR-SER-SER
361 ASN-CYS-CYS-ARG-HIS-HIS-ILE-TYR-PRO-TRP-CYS-LYS-CYS-CYS-GLN-PRO-CYS-VAL-VAL-ASN
381 GLU-TYR-TYR-TYR-ARG-LYS-LYS-CYS-GLU-SER-ILE-VAL-GLU-PRO-LYS-PRO-THR-LEU-LYS-TYR
401 VAL-SER-PHE-VAL-ASP-GLU-SER-HIS-ILE-ARG-MET-VAL-ASN-GLN-GLN-LEU-LEU-GLY-ARG-SER
421 LEU-GLN-ASP-VAL-LYS-GLY-GLN-GLU-VAL-PRO-ARG-PRO-ALA-MET-ASP-PHE-THR-ASP-LEU-SER
441 ARG-LEU-PRO-LEU-ALA-LEU-HIS-ASP-THR-PRO-PRO-ILE-PRO-GLY-GLN-PRO-GLU-GLU-ILE-GLN
461 LEU-LEU-ARG-LYS-GLU-ALA-THR-PRO-ARG-SER-ARG-ASP-SER-PRO-VAL-TRP-CYS-GLN-CYS-GLY
481 SER-CYS-LEU-PRO-SER-GLN-LEU-PRO-GLU-SER-HIS-ARG-CYS-LEU-GLU-GLU-LEU-CYS-ARG
501 LYS-LYS-PRO-GLY-ALA-CYS-ILE-THR-THR-SER-GLU-LEU-PHE-ARG-LYS-LEU-VAL-LEU-SER-ARG
521 HIS-VAL-LEU-GLN-PHE-LEU-LEU-TYR-GLN-GLU-PRO-LEU-LEU-ALA-LEU-ASP-VAL-ASP-SER
541 THR-ASN-SER-ARG-LEU-ARG-HIS-CYS-ALA-TYR-ARG-CYS-TYR-ALA-THR-TRP-ARG-PHE-GLY-SER
561 GLN-ASP-MET-ALA-ASP-PHE-ALA-ILE-LEU-PRO-SER-CYS-CYS-ARG-TRP-ARG-ILE-ARG-LYS-GLU
581 PHE-PRO-LYS-SER-GLU-GLY-GLN-TYR-SER-GLY-PHE-LYS-SER-PRO-TYR

FIGURE 1
Sequence of human P2X₇ receptor.