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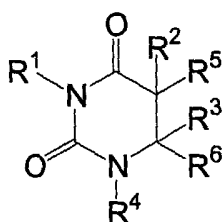
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(54) Title: DIHYDROURACIL COMPOUNDS AS ANTI-ICTOGENIC OR ANTI-EPILEPTOGENIC AGENTS



(1)

(57) Abstract: Methods and compounds useful for the inhibition of convulsive disorders, including epilepsy, are disclosed. The methods and compounds of the invention inhibit or prevent or treat ictogenesis, epileptogenesis, or epileptogenesis-associated conditions. Methods for preparing the compounds of the invention are also described. Particularly preferred compounds of the invention include Formula 1 as described herein.

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 03/01082

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61K31/513 C07D239/22 A61P25/08

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)  
IPC 7 C07D

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, PAJ, CHEM ABS Data, BEILSTEIN Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO 02 083651 A (UNIV KINGSTON) 24 October 2002 (2002-10-24) claims 1,45,46	1-31
Y	US 4 588 729 A (ICHIKAWA SHUNJI ET AL) 13 May 1986 (1986-05-13) claim 1	1-31
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "&" document member of the same patent family

Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; retrieved from STN, accession no. 1987:107921 Database accession no. 1987:107921 XP002261204 abstract &amp; JP 61 236724 A (KYOWA HAKKO KOGYO CO LTD) 22 October 1986 (1986-10-22) rn77385-01-4, rn77385-02-5, rn77385-16-1, rn77385-17-2, rn101394-17-6, rn101394-18-7, rn101394-19-8, rn101394-27-8, rn106985-68-6 -----</p>	1-31

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02083651	A	24-10-2002	WO 02083651 A2	24-10-2002
			US 2003153584 A1	14-08-2003
			US 2003194375 A1	16-10-2003
<hr/>				
US 4588729	A	13-05-1986	JP 60243017 A	03-12-1985
			DE 3584852 D1	23-01-1992
			EP 0162669 A2	27-11-1985
<hr/>				
JP 61236724	A	22-10-1986	JP 1876834 C	07-10-1994
			JP 5086375 B	10-12-1993
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