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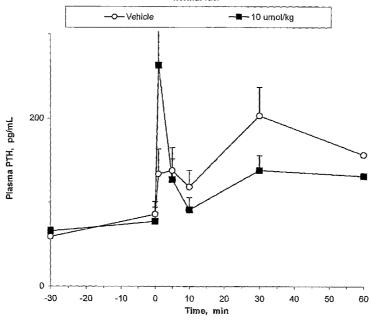
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[Continued on next page]

(54) Title: PYRIDAZINONE COMPOUNDS AS CALCILYTICS

Effect of bolus i.v. injection of Example 2b on plasma PTH levels in normal rats



(57) Abstract: Various calcilytic compounds and pharmaceutical compositions containing these compounds are disclosed. Calcilytic compounds are compounds capable of inhibiting calcium receptor activity. Methods for preparing calcilytic compounds, oral bioavailability of calcilytic compounds, and their use as calcium receptor antagonists are also disclosed.





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Documentation	on searched other than minimum documentation to the	extent that such documents are included in	the fields searched		
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C. DOCU	JMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where a		Relevant to claim No.		
X	WO 2004046133 (MERCK)03 Jun. 2004 (03.06.04),	, RN 697739-27-8 and RN 697739-34-7.	1,2,9-12,14		
Α			3-8,13,15-20		
x 	WO 9925697 (KOWA CO.) 17 May 1999 (27.05.99)	, see entire document.	1-7,14 		
Α			8-13,15-20		
X Ismail, et al., Egypt. J. Chem., 1982, 24(4-6), 365-9, RN 221048-79-9.		1,6,8			
Α			2-5,7,9-20		
х	US6,004,960 A (LI, et al.) 21 Dec. 1999 (21.12.1999), column 11, II->III.	15,16		
Further	documents are listed in the continuation of Box C.	See patent family annex.			
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date and not in conflict with the application but cited to understand "A" document defining the general state of the art which is not considered to be of particular relevance date and not in conflict with the application but cited to understand principle or theory underlying the invention					
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Com	I Stop PCT, Attn: ISA/US nmissioner for Patents	Cecilia M. Jaisle			
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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US06/39700

C. 0	Continuation [®]	DOCUMENTS	CONSIDERED '	OT	BE RELEVANT
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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
Х	US 2004/0142932 (HEPPERLE, et al.) 22 Jul. 2004 (22.07.2004), claim 55.	17-20
A		1-14
X	US 6680316 B1 (Ohkuchi, et al.) 20 Jan. 2004 (20.01.2004), claim 10.	17-20
A		1-14
X	US 20020123496 A1 (Ohkuchi, et al.) 5 Sep. 2002 (05.09.2002), claim 9.	17-20
Α		1-14
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