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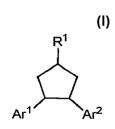
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(54) Title: CANNABINOID RECEPTOR MODULATORS



(57) Abstract: Disclosed are compounds of the formula: or the pharmaceutically acceptable salts or solvates thereof, wherein: Ar^1 is a chlorophenyl group, Ar^2 is a dichlorophenyl group, R^1 is a -(CH₂)m-X-(CH₂)n- R^2 group, X is a -NH-, -O-, -C(O)- or -S(O)₂- group, and R^2 is a substituted phenyl group. These compounds are CB1 receptor modulators. Also disclosed are methods of treating CB1 modulated diseases or conditions such as the metabolic syndrome.

INTERNATIONAL SEARCH REPORT

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	tion searched other than minimum documentation to the extent that s								
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, CHEM ABS Data, BIOSIS, EMBASE, WPI Data									
C. DOCUMENTS CONSIDERED TO BE RELEVANT									
Category*	Citation of document, with indication, where appropriate, of the rel	evant passages	Relevant to claim No.						
A	US 2004/224997 A1 (SMITH ROGER [US] ET AL) 11 November 2004 (2004-11-11) claims 1,8,11,15								
A	WO 02/067869 A (MERCK & CO INC [US]; GOULET MARK T [US]; NARGUND RAVI P [US]; UJJAINWA) 6 September 2002 (2002-09-06) claim 27								
P,A	EP 1 743 888 A (ESTEVE LABOR DR [ES]) 17 January 2007 (2007-01-17)								
Furt	her documents are listed in the continuation of Box C.	X See patent family annex.							
* Special categories of cited documents : 'T' later document published after the international filin or priority date and not in conflict with the application considered to be of particular relevance 'A' document defining the general state of the art which is not considered to be of particular relevance									
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other means "P" document published prior to the international filing date but later than the priority date claimed		ments, such combination being obvious to a person skilled in the art. *&* document member of the same patent family							
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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
US 2004224997	A1	11-11-2004	US	2006194859 A1	31-08-2006
WO 02067869	A	06-09-2002	CA EP JP	2439119 A1 1385506 A2 2004530656 T	
EP 1743888	Α	17-01-2007	NONE		