

DIVISION DE NUEVAS CREACIONES

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EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

PCT FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **543**

DE FECHA **1 DE SEPTIEMBRE DE 2004** EL TERMINO HABIL SEÑALADO

POR LA LEY EXPIRA EL **29 DE NOVIEMBRE DEL 2004**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____

NO ___ **X** _____

Bogotá D.C, SEPTIEMBRE DE 2007

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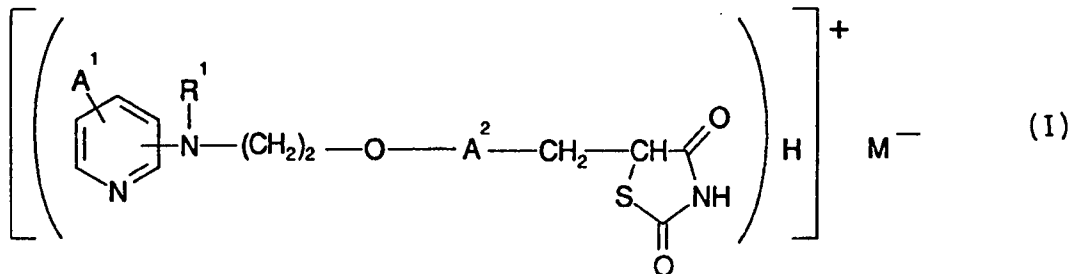
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(21) International Application Number: PCT/GB93/01853 (22) International Filing Date: 1 September 1993 (01.09.93) (30) Priority data: 9218830.9 5 September 1992 (05.09.92) GB (71) Applicant (for all designated States except US): SMITH-KLINE BEECHAM PLC [GB/GB]; New Horizons Court, Brentford, Middlesex TW8 9EP (GB). (72) Inventors; and (75) Inventors/Applicants (for US only) : POOL, Colin, Ripley [GB/GB]; ROMAN, Robin, Sherwood [US/GB]; Smith-Kline Beecham Pharmaceuticals, Great Burgh, Yew Tree Bottom Road, Epsom, Surrey KT18 5XQ (GB). BRIGHWELL, Malcolm, David [GB/GB]; SmithKline Beecham Pharmaceuticals, Coldharbour Road, The Pinnacles, Harlow, Essex CM19 5AD (GB). TREMPER, Alan, William [US/GB]; SmithKline Beecham Pharmaceuticals, Old Powder Mills, Near Leigh, Tonbridge, Kent TN11 9AN (GB).		(74) Agent: RUTTER, Keith; SmithKline Beecham, Corporate Intellectual Property, Great Burgh, Yew Tree Bottom Road, Epsom, Surrey KT18 5XQ (GB). (81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>

(54) Title: SUBSTITUTED THIAZOLIDINEDIONE DERIVATIVES



(57) Abstract

A compound of formula (I) or a tautomeric form thereof and/or a pharmaceutically acceptable solvate thereof, wherein: R¹ represents a hydrogen atom, an alkyl group, an acyl group, an aralkyl group, wherein the aryl moiety may be substituted or unsubstituted, or a substituted or unsubstituted aryl group; A¹ represents hydrogen or 1 to 4 optional substituents selected from the group consisting of: alkyl, alkoxy, aryl and halogen or A¹ represents two substituents on adjacent carbon atoms, which substituents together with the carbon atoms to which they are attached form a substituted or unsubstituted aryl group; A² represents a benzene ring having 1 to 3 optional substituents; and M⁻ represents a counter-ion; a process for preparing such a compound, a pharmaceutical composition comprising such a compound and the use of such a compound and composition in medicine.

unsubstituted aryl group; A^1 represents hydrogen or 1 to 4 optional substituents selected from the group consisting of: alkyl, alkoxy, aryl and halogen or A^1 represents two substituents on adjacent carbon atoms, which substituents together with the carbon atoms to which they are attached form a substituted or unsubstituted aryl group; A^2 represents a benzene ring having 1 to 3 optional substituents; and M^- represents a counter-ion.

Suitable counter-ions M^- include ions provided by pharmaceutically acceptable acids.

A suitable source of counter-ions M^- is provided by those pharmaceutically acceptable acids having a pK_a in the range of from 0.1 to 4.5 and especially in the range of from 1.75 to 2.5.

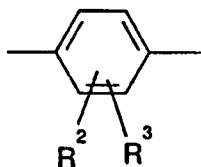
Favoured pharmaceutically acceptable acids include mineral acids, such as hydrobromic, hydrochloric and sulphuric acids, and organic acids, such as methanesulphonic, tartaric and maleic acids, especially tartaric and maleic acid.

A preferred counter-ion is the maleate ion $HOOC.CH=CH.COO^-$.

Preferably, A^1 is hydrogen.

Suitable optional substituents for the moiety A^2 include up to three substituents selected from halogen, substituted or unsubstituted alkyl or alkoxy.

Favourably, A^2 represents a moiety of formula (e):



(e)

wherein R^2 and R^3 each independently represent hydrogen, halogen, substituted or unsubstituted alkyl or alkoxy.

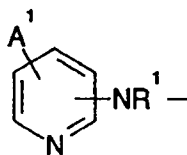
Suitably, R^2 and R^3 each independently represent hydrogen, halogen, alkyl or alkoxy.

Preferably, R^2 and R^3 each represent hydrogen.

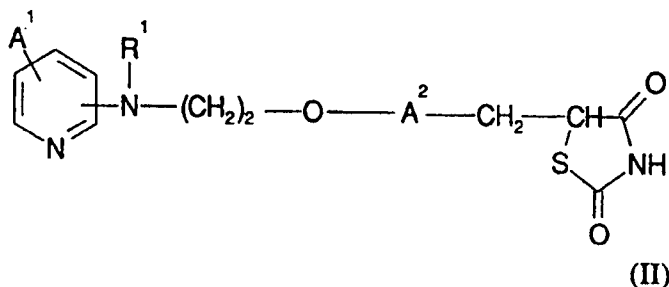
Suitably, R^1 represents hydrogen, alkyl, acyl, especially acetyl, or benzyl.

Preferably, R^1 represents an alkyl group, for example a methyl group.

Preferably the moiety :



pharmaceutically acceptable solvate thereof, which process comprises reacting a compound of formula (II):



wherein R^1 , A^1 and A^2 are as defined in relation to formula (I), with a source of above defined counter-ion M^- ; and thereafter if required preparing a pharmaceutically acceptable solvate thereof.

10 A suitable source of a counter-ion M^- is a pharmaceutically acceptable acid.

A suitable source of counter-ions includes pharmaceutically acceptable acids having a pK_a in the range of from 1.5 to 4.5, especially in the range of from 1.75 to 2.5.

15 Favoured pharmaceutically acceptable acids include mineral acids, such as hydrobromic, hydrochloric and sulphuric acids, and organic acids, such as methanesulphonic, tartaric and maleic acids.

A preferred source of a counter-ion is maleic acid.

20 The reaction between the compound of formula (I) and the source of counter-ion M^- is generally carried out under conventional salt forming conditions, for example by admixing the compound of formula (I) and the source of counter-ion M^- , suitably in approximately equimolar amounts but preferably using a slight excess of the source of counter-ion M^- , in a solvent, generally a C_{1-4} alkanolic solvent such as ethanol, at any temperature which provides a suitable rate of formation of the required product, generally at an elevated temperature for example at the reflux

25 temperature of the solvent and thereafter crystallising the required product.

Pharmaceutically acceptable solvates of the compound of formula (I) may be prepared using conventional chemical procedures.

The compound of formula (II) may be prepared according to methods disclosed in EP-A-0306228.

30 Suitable sources of counter-ion are known commercially available sources, such as maleic acid, or the required source may be prepared according to known procedures.