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Señor Jefe

DIVISION DE NUEVAS CREACIONES

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Santa Fe de Bogotá, D.C.

02-01-09
Re.: Expediente No. 00 - 28.928

Solicitud de Patente

SMITHKLINE BEECHAM p.l.c.

Radicacion : SUPERINDUSTRIA Y COMERCIO
00028928 00303081 Folios: 15
Fecha (AMD): 2000-05-09 10:10:51
Tramite : 002 PATENTES D 1 REGISTRO/ 329 COMPLETEN
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

Debidamente traducida, adjunto acompaño la solicitud de patente básica Inglesa No. 9909075.5 la cual le solicito agregar a este expediente para los efectos legales respectivos.

De Usted atentamente,

GERMAN CASTILLO GRAU

T.P.#2.978 del C.S.J.

+



The
Patent
Office

P 32245
INVESTOR IN PEOPLE

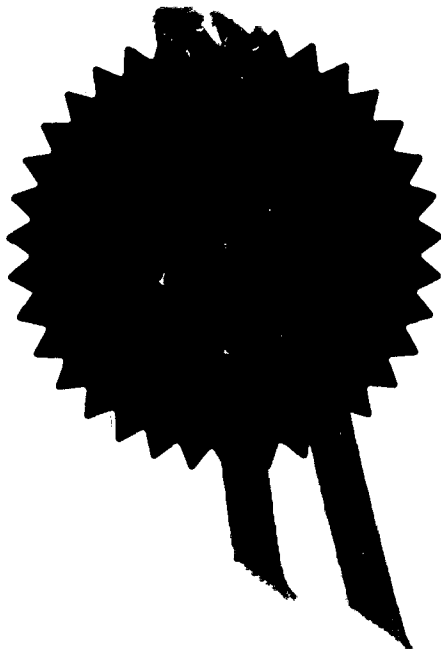
The Patent Office
Concept House
Cardiff Road
Newport
South Wales
NP10 8QQ

I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

In accordance with the rules, the words "public limited company" may be replaced by p.l.c., plc, P.L.C. or PLC.

Re-registration under the Companies Act does not constitute a new legal entity but merely subjects the company to certain additional company law rules.



Signed

Andrew

Dated

23 March 2000



The
Patent
Office

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1/77
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21APR99 E441425-1 D02029
P01/7700 0.00 - 9909075.5

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office
Cardiff Road
Newport
Gwent NP9 1RH

1. Your reference

KR/NM/P32285

2. Patent application number

(The Patent Office will fill in this part)

9909075.5

3. Full name, address and postcode of the or of each applicant (underline all surnames)

SmithKline Beecham plc
New Horizons Court, Brentford, Middx TW8 9EP,
Great Britain

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

5800974002

4. Title of the invention

Novel Pharmaceutical

5. Name of your agent (if you have one)

CORPORATE INTELLECTUAL PROPERTY

"Address for service" in the United Kingdom to which all correspondence should be sent
(including the postcode)

SMITHKLINE BEECHAM PLC
TWO NEW HORIZONS COURT
BRENTFORD
MIDDLESEX TW8 9EP

Patents ADP number (if you know it)

5800974004

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or each of these earlier applications and (if you know it) the or each application number

Country	Priority application number (if you know it)	Date of filing (day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application	Date of filing (day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer yes if:

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is named as an applicant, or
 - c) any named applicant is a corporate body
- See note (d)

9. Enter the number of sheets for any of the following items you are filing with this form.
Do not count copies of the same document

Continuation sheets of this form

Description

10

Claim(s)

Abstract

Drawings

10

10. If you are also filing any of the following, state how many against each item.

Priority Documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 1/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination (*Patents Form 10/77*)

Any other documents
(please specify)

11.

We request the grant of a patent on the basis of this application

Signature

K Rutter
K Rutter

Date 20-Apr-99

12. Name and daytime telephone number of person to contact in the United Kingdom

K Rutter 01279 644396

Warning

After an application for a Patent has been filed, the Comptroller of the Patent Office will consider whether publication or communication of the invention should be prohibited or restricted under Section 22 of the Patents Act 1977. You will be informed if it is necessary to prohibit or restrict your invention in this way. Furthermore, if you live in the United Kingdom, Section 23 of the Patents Act 1977 stops you from applying for a patent abroad without first getting written permission unless an application has been filed at least six weeks beforehand in the United Kingdom for a patent for the same invention and either no direction prohibiting publication or communication has been given, or any such direction has been revoked.

Notes

- a) If you need help to fill in this form or you have any questions, please contact the Patent Office on 0645 500505
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- c) If there is not enough space for all relevant details on any part of this form, please continue on a separate sheet of paper and write "see continuation sheet" in the relevant part(s). Any continuation sheet should be attached to this form.
- d) If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- f) For details of the fee and ways to pay please contact the Patent Office.

Patents Form 1/77

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NOVEL PHARMACEUTICAL

This invention relates to a novel pharmaceutical, to a process for the preparation of the pharmaceutical and to the use of the pharmaceutical in medicine.

5 European Patent Application, Publication Number 0,306,228 relates to certain thiazolidinedione derivatives disclosed as having hypoglycaemic and hypolipidaemic activity. The compound of example 30 of EP 0,306,228 is 5-[4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl]thiazolidine-2,4-dione (hereinafter also referred to as "Compound I").

10 International Patent Application, Publication Number WO94/05659 discloses certain salts of the compounds of EP 0,306,228 and in particular the maleic acid salt.

It has now been discovered that Compound I exists in the form of a novel hydrochloride salt which is monohydrated. This novel hydrochloride salt monohydrate (hereinafter also referred to as "Hydrochloride Hydrate") is particularly
15 suitable for bulk preparation and handling. The novel form can be prepared by an efficient, economic and reproducible process particularly suited to large scale preparation.

The novel Hydrochloride Hydrate also has useful pharmaceutical properties and in particular it is indicated to be useful for the treatment and/or prophylaxis of
20 diabetes mellitus, conditions associated with diabetes mellitus and certain complications thereof.

Accordingly, the present invention provides 5-[4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]]thiazolidine-2,4-dione, hydrochloride monohydrate characterised in that it:

- 25 (i) provides an infra red spectrum containing peaks at 3358, 2764, 1245, 833 and 760cm⁻¹; and/or
(ii) provides an X-ray powder diffraction (XRPD) pattern containing peaks at 15.0, 17.7, 23.0, 30.0 and 31.4 °2θ.

In one favoured aspect, Hydrochloride Hydrate provides an infra red spectrum
30 substantially in accordance with Figure I.

In one favoured aspect, Hydrochloride Hydrate provides an X-Ray powder diffraction pattern (XRPD) substantially in accordance with Figure II.

The present invention encompasses Hydrochloride Hydrate isolated in pure form or when admixed with other materials.

35 Thus in one aspect there is provided Hydrochloride Hydrate in isolated form.
In a further aspect there is provided Hydrochloride Hydrate in pure form.
In yet a further aspect there is provided Hydrochloride Hydrate in crystalline form.

The invention also provides a process for preparing Hydrochloride Hydrate, characterised in that 5-[4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl]thiazolidine-2,4-dione (Compound I) is treated with hydrochloric acid in acetic acid as solvent and thereafter the required compound is recovered.

Suitably the reaction is carried out at ambient temperature but any convenient temperature may be employed which provides the required product.

Recovery of the required compound generally comprises crystallisation from an appropriate solvent such as diethyl ether.

Crystallisation and any re-crystallisation is generally carried out at low to ambient temperature, such as in the range of between 0 to 30°C for example 25°C; alternatively crystallisation may be initiated at an elevated temperature, such as in the range of between 30°C and 60°C for example 50°C, and then completed by allowing the temperature of the solvent to cool to ambient or low temperature, such as in the range of between 0 to 30°C for example 25°C. The crystallisation can be initiated by seeding with crystals of Hydrochloride Hydrate but this is not essential.

Compound I is prepared according to known procedures, such as those disclosed in EP 0,306,228 and WO94/05659. The disclosures of EP 0,306,228 and WO94/05659 are incorporated herein by reference.

When used herein the term 'prophylaxis of conditions associated with diabetes mellitus' includes the treatment of conditions such as insulin resistance, impaired glucose tolerance, hyperinsulinaemia and gestational diabetes.

Diabetes mellitus preferably means Type II diabetes mellitus.

Conditions associated with diabetes include hyperglycaemia and insulin resistance and obesity. Further conditions associated with diabetes include hypertension, cardiovascular disease, especially atherosclerosis, certain eating disorders, in particular the regulation of appetite and food intake in subjects suffering from disorders associated with under-eating, such as anorexia nervosa, and disorders associated with over-eating, such as obesity and anorexia bulimia. Additional conditions associated with diabetes include polycystic ovarian syndrome and steroid induced insulin resistance.

The complications of conditions associated with diabetes mellitus encompassed herein includes renal disease, especially renal disease associated with the development of Type II diabetes including diabetic nephropathy, glomerulonephritis, glomerular sclerosis, nephrotic syndrome, hypertensive nephrosclerosis and end stage renal disease.

As mentioned above the compound of the invention has useful therapeutic properties: The present invention accordingly provides Hydrochloride Hydrate for use as an active therapeutic substance.

5 More particularly, the present invention provides Hydrochloride Hydrate for use in the treatment and/or prophylaxis of diabetes mellitus, conditions associated with diabetes mellitus and certain complications thereof.

Hydrochloride Hydrate may be administered per se or, preferably, as a pharmaceutical composition also comprising a pharmaceutically acceptable carrier. The formulation of Hydrochloride Hydrate is generally as disclosed for Compound (I)
10 in the above mentioned publications.

Accordingly, the present invention also provides a pharmaceutical composition comprising Hydrochloride Hydrate and a pharmaceutically acceptable carrier therefor.

Hydrochloride Hydrate is normally administered in unit dosage form.
15 The active compound may be administered by any suitable route but usually by the oral or parenteral routes. For such use, the compound will normally be employed in the form of a pharmaceutical composition in association with a pharmaceutical carrier, diluent and/or excipient, although the exact form of the composition will naturally depend on the mode of administration.

20 Compositions are prepared by admixture and are suitably adapted for oral, parenteral or topical administration, and as such may be in the form of tablets, capsules, oral liquid preparations, powders, granules, lozenges, pastilles, reconstitutable powders, injectable and infusable solutions or suspensions, suppositories and transdermal devices. Orally administrable compositions are
25 preferred, in particular shaped oral compositions, since they are more convenient for general use.

Tablets and capsules for oral administration are usually presented in a unit dose, and contain conventional excipients such as binding agents, fillers, diluents, tableting agents, lubricants, disintegrants, colourants, flavourings, and wetting agents.
30 The tablets may be coated according to well known methods in the art.

Suitable fillers for use include cellulose, mannitol, lactose and other similar agents. Suitable disintegrants include starch, polyvinylpyrrolidone and starch derivatives such as sodium starch glycollate. Suitable lubricants include, for example, magnesium stearate. Suitable pharmaceutically acceptable wetting agents include
35 sodium lauryl sulphate.

Solid oral compositions may be prepared by conventional methods of blending, filling, tableting or the like. Repeated blending operations may be used to

distribute the active agent throughout those compositions employing large quantities of fillers. Such operations are, of course, conventional in the art.

Oral liquid preparations may be in the form of, for example, aqueous or oily suspensions, solutions, emulsions, syrups, or elixirs, or may be presented as a dry product for reconstitution with water or other suitable vehicle before use. Such liquid preparations may contain conventional additives such as suspending agents, for example sorbitol, syrup, methyl cellulose, gelatin, hydroxyethylcellulose, carboxymethyl cellulose, aluminium stearate gel or hydrogenated edible fats, emulsifying agents, for example lecithin, sorbitan monooleate, or acacia; non-aqueous vehicles (which may include edible oils), for example, almond oil, fractionated coconut oil, oily esters such as esters of glycerine, propylene glycol, or ethyl alcohol; preservatives, for example methyl or propyl p-hydroxybenzoate or sorbic acid, and if desired conventional flavouring or colouring agents.

For parenteral administration, fluid unit dose forms are prepared containing a compound of the present invention and a sterile vehicle. The compound, depending on the vehicle and the concentration, can be either suspended or dissolved. Parenteral solutions are normally prepared by dissolving the active compound in a vehicle and filter sterilising before filling into a suitable vial or ampoule and sealing. Advantageously, adjuvants such as a local anaesthetic, preservatives and buffering agents are also dissolved in the vehicle. To enhance the stability, the composition can be frozen after filling into the vial and the water removed under vacuum.

Parenteral suspensions are prepared in substantially the same manner except that the active compound is suspended in the vehicle instead of being dissolved and sterilised by exposure to ethylene oxide before suspending in the sterile vehicle. Advantageously, a surfactant or wetting agent is included in the composition to facilitate uniform distribution of the active compound.

As is common practice, the compositions will usually be accompanied by written or printed directions for use in the medical treatment concerned.

As used herein the term 'pharmaceutically acceptable' embraces compounds, compositions and ingredients for both human and veterinary use: for example the term 'pharmaceutically acceptable salt' embraces a veterinarily acceptable salt.

The present invention further provides a method for the treatment and/or prophylaxis of diabetes mellitus, conditions associated with diabetes mellitus and certain complications thereof, in a human or non-human mammal which comprises administering an effective, non-toxic, amount of Hydrochloride Hydrate to a human or non-human mammal in need thereof.

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Conveniently, the active ingredient may be administered as a pharmaceutical composition hereinbefore defined, and this forms a particular aspect of the present invention.

- 5 In a further aspect the present invention provides the use of Hydrochloride Hydrate for the manufacture of a medicament for the treatment and/or prophylaxis of diabetes mellitus, conditions associated with diabetes mellitus and certain complications thereof.

- 10 In the treatment and/or prophylaxis of diabetes mellitus, conditions associated with diabetes mellitus and certain complications thereof Hydrochloride Hydrate may be taken in doses, such as those disclosed in EP 0,306,228 and WO94/05659.

No adverse toxicological effects are indicated in the above mentioned treatments for the compounds of the invention.

The following example illustrates the invention but does not limit it in any way.

Example 1: Preparation of 5-[4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl]thiazolidine-2,4-dione, hydrochloride monohydrate

- 5 To a solution of 5-[4-[2-(N-methyl-N-(2-pyridyl)amino)ethoxy]benzyl]thiazolidine-2,4-dione (10g) in acetic acid (100 g) was added concentrated hydrochloric acid (10 ml). After 15 mins the clear solution was treated with diethyl ether (150 ml). The supernatant liquid was decanted, and the residue stirred with fresh diethyl ether (100 ml). The liquid was again decanted, and the thick oil stirred with fresh diethyl ether (50 ml). The product was filtered and washed with diethyl ether and dried under vacuum at 50°C to give the title compound- (7.67 g, 66.5%), melting point - 100-3°C with resolidification and remelting at 150-4°C.

15 **CHARACTERISING DATA:** The following characterising data were generated for Hydrochloride Hydrate:

A Water content

This was determined as 4.5% w/w using a Karl Fischer apparatus (theory for monohydrate 4.37% w/w).

20

B Ionic Chlorine

This was determined as 8.7% w/w (theory for monohydrate 8.61% w/w).

C Infrared

- 25 The infrared absorption spectrum of a mineral oil dispersion of Hydrochloride Hydrate was obtained using a Nicolet 710 FT-IR spectrometer at 2 cm⁻¹ resolution. Data were digitised at 1 cm⁻¹ intervals. The spectrum obtained is shown in Figure I. Peak positions are as follows: 3358, 3124, 2764, 1762, 1747, 1707, 1644, 1614, 1587, 1544, 1511, 1414, 1333, 1302, 1268, 1245, 1181, 1154, 1142, 1108, 1075, 1054, 30 1033, 1012, 988, 938, 905, 859, 833, 817, 760, 738, 716, 663, 652, 636, 620, 605, 564, 540, 525 and 505cm⁻¹.

B X-Ray Powder Diffraction (XRPD)

- 35 The XRPD pattern of Hydrochloride Hydrate is shown below in Figure II and a summary of the XRPD angles and calculated lattice spacings characteristic of Hydrochloride Hydrate is given in Table I.

A Philips PW1710 X-ray powder diffractometer (Cu X-ray source) was used to generate the pattern using the following acquisition conditions:

- 40 Tube anode: Cu
Generator tension: 40 kV
Generator current: 30 mA
Start angle: 3.5 °2θ
End angle: 35.0 °2θ

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Step size: 0.020 °2θ
Time per step: 2.3 s

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Table I.
X-Ray Powder Diffraction Angles and Calculated Lattice Spacings Characteristic of
Hydrochloride Hydrate.

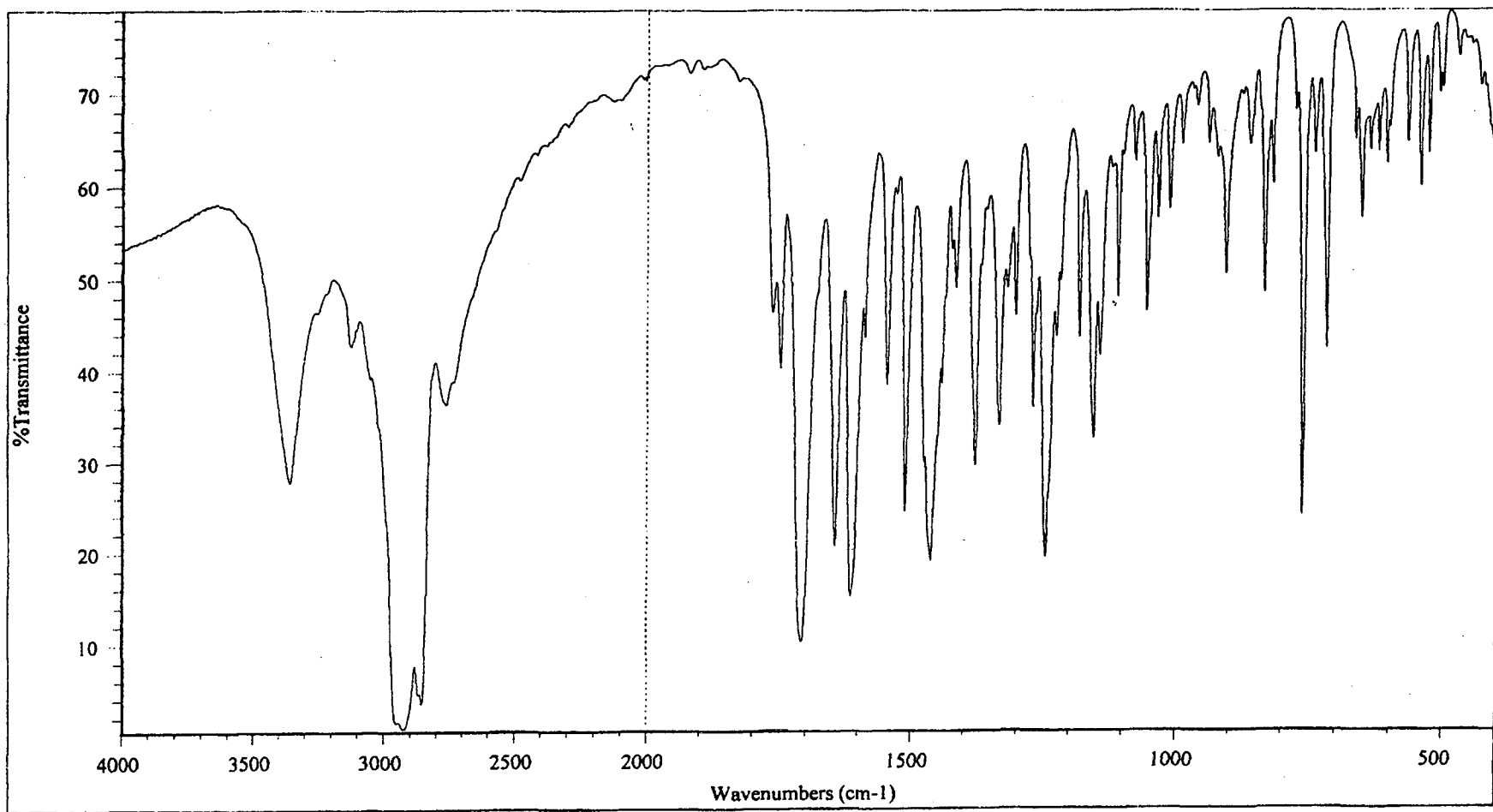
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Diffraction Angle (°2θ)	Lattice Spacing (Angstroms)
8.8	10.06
12.1	7.31
14.1	6.30
14.3	6.17
15.0	5.90
16.5	5.38
17.7	5.01
19.1	4.62
19.9	4.46
20.7	4.28
21.3	4.17
21.7	4.09
23.0	3.86
23.8	3.73
24.3	3.66
24.9	3.57
25.6	3.48
27.0	3.30
27.6	3.23
28.9	3.08
30.0	2.97
31.4	2.85
32.2	2.78
33.1	2.71

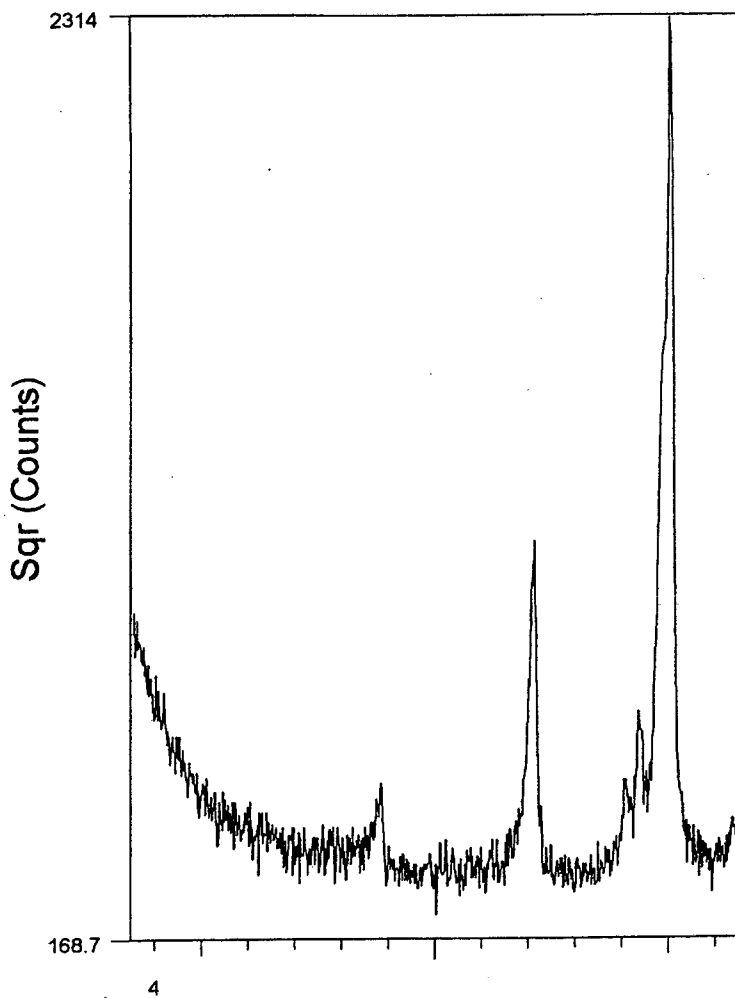
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Figure I. Infrared Spectrum of Hydrochloride Hydrate.

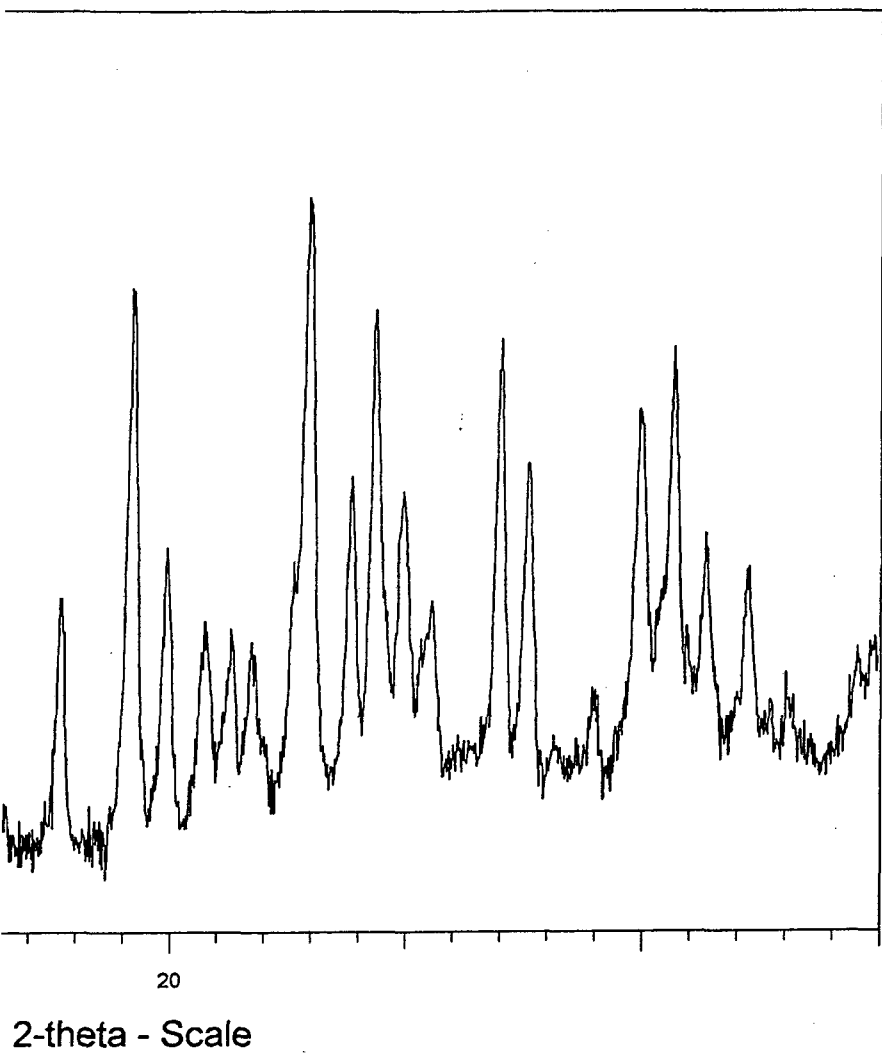
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Figure II. X-Ray Powder Diffraction Pattern of Hydrochloride Hydrate



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LEGALIZACIONES

OFICINA DE PATENTES

Concept House
Cardiff Road
Newport
South Wales
NP10 8QQ

El suscrito, un funcionario debidamente autorizado conforme a los Artículos 74(1) y (4) de la Ley de Desreglamentación y Contratación de 1994 para firmar y expedir certificados en nombre del Contralor General, certifico que la copia adjunta es una copia correcta de los documentos archivados originalmente con respecto a la solicitud de patente que allí se identifica.

De acuerdo con las Reglamentaciones de Patentes de 1982 (Re-registro de Compañías), si una compañía nombrada en este certificado y en los documentos adjuntos se ha vuelto a registrar según la Ley de Compañías de 1980 con el mismo nombre con el que fue registrada inmediatamente antes del re-registro, salvo la sustitución o inclusión como la última parte del nombre de las palabras "sociedad anónima" o su equivalente en galés, las referencias al nombre de la compañía y sus documentos adjuntos serán tratadas como referencias al nombre con el cual fue re-registrada.

De acuerdo con las reglas, las palabras "sociedad anónima" (o en inglés *public limited company*) pueden ser reemplazadas por las letras p.l.c, plc. P.L.C ó PLC.

El re-registro bajo la Ley de Compañías no constituye una nueva entidad legal sino simplemente somete a la compañía a ciertas normas de ley adicionales.

(FIRMA) ANDREW BREWER

FECHA: 23 de marzo de 2000

(SELLO DE LACRE)

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OFICINA DE PATENTES

SOLICITUD DE PATENTE

1. Su referencia: **KR/NM/P32285**

2. Solicitud No. **9909075.5** 20 de abril de 1999

3. Nombre completo y código postal de cada solicitante:

Dirección: (1) SMITHKLINE BEECHAM plc.
New Horizons Court,
Brentford, Mddlesex TW8 9EP

No. APD 5800974002

Si el solicitante es una entidad, indique el país/estado de constitución:

REINO UNIDO

4. TITULO DEL INVENTO:

PRODUCTOS FARMACÉUTICOS NOVEDOSOS

5. NOMBRE DE SU AGENTE:

Nombre del Agente: **CORPORATE INTELLECTUAL PROPERTY**

Dirección para notificaciones: **SMITHKLINE BEECHAM PLC
TWO NEW HORIZONS COURT
BRENTFORD
MIDDLESEX TW8 9EP**

NO. ADP Patentes 5800974004

6. N/A

7. N/A

8. SI

38 40
2
9. Número de hojas radicadas (En inglés). Descripción: 10 Reivindicaciones:

Resumen : - Dibujos: -

10. Solicitud de examen preliminar y búsqueda:

11. Solicitamos se nos adjudique una patente con base en esta solicitud.

K RUTTER

20 de abril de 1999

12. Nombre y teléfono del contacto en el Reino Unido Nombre y teléfono del contacto en el
Reino Unido (FIRMA) K RUTTER 01279 644396

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PRODUCTO FARMACÉUTICO NOVEDOSO

Esta invención se refiere a un producto farmacéutico novedoso, a un proceso para la preparación del fármaco y al uso del fármaco en medicina.

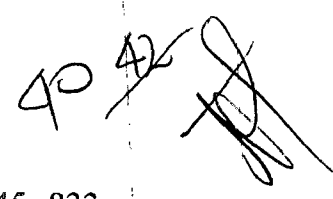
La Solicitud de Patente Europea No. 0,306,228 se refiere a ciertos derivados de tiazolidinediona revelados por tener actividad hipoglicémica e hipolipidémica. El compuesto del ejemplo 30 de la Solicitud EP 0,306,228 es 5-[4-[2-(N-metil-N-(2-piridil)amino)etoxi]bencil]tiazolidine-2,4-diona, (referido en adelante como "Compuesto I")

La Solicitud de Patente Internacional No. WO94/05659 revela ciertas sales de los compuestos de la Patente EP 0,306,228 y en particular la sal de ácido maléico.

Se ha descubierto que el Compuesto I existe en la forma de una sal clorhídrica novedosa que es monohidratada. Este monohidrato de sal clorhídrica novedosa (referido también como "Hidrato Clorhídrico") es particularmente útil para preparación y manejo en volúmenes. La forma novedosa puede ser preparada mediante un proceso eficiente, económico y reproducible indicado para preparación a grande escala.

El Hidrato Clorhídrico también tiene propiedades farmacéuticas útiles, y en particular es indicado para ser útil en el tratamiento y/o profilaxis de diabetes mellitus, condiciones asociadas con diabetes mellitus y ciertas complicaciones de la misma.

Por lo tanto, la presente invención provee monohidrato clorhídrico 5-[4-[2-(N-metil-N-(2-piridil)amino)etoxi]tiazolidina-2,4-diona, , caracterizado en que:

- 40 42 
- i) provee un espectro infrarrojo que contiene picos a 3358, 2764, 1245, 833 y 760 cm^{-1} ; y/o
 - ii) provee un patrón de difracción de polvo de rayos X (XRPD) que contiene picos a 15.0, 17.7, 23.0, 30.0 y 31- $4^{\circ}2\theta$

La invención también provee un proceso para preparar Hidrato Clorhídrico caracterizado en que 5-[4-[2-(N-metil-N-(2-piridil)amino)etoxi]bencil]tiazolidine-2,4-diona (Compuesto I) es tratado con ácido clorhídrico en ácido acético como solvente, y después de ello, el compuesto requerido es recuperado.

De manera preferida, la reacción es realizada a temperatura ambiente pero se puede emplear cualquier temperatura conveniente que provea el producto requerido.

La recuperación del compuesto requerido comprende generalmente cristalización de un solvente adecuado tal como dietil eter.

Generalmente, la cristalización y cualquier recristalización se lleva a cabo a baja temperatura ambiente, tal como entre 0 a 30°C por ejemplo, 25°C; alternativamente, la cristalización puede ser iniciada a una temperatura elevada, tal como entre 30 y 60°C, por ejemplo 50°C, y luego ser terminada dejando que la temperatura del solvente se enfríe a temperatura ambiente o a baja temperatura, tal como entre 0 y 30°C por ejemplo 25°C. La cristalización puede ser iniciada mediante germinación con cristales de Hidrato Clorhídrico, más ello no es esencial.

Diabetes mellitus significa preferiblemente diabetes mellitus Tipo II.

Condiciones asociadas con diabetes incluyen hiperglicemia y resistencia a la insulina y obesidad. Otras condiciones asociadas con diabetes incluyen hipertensión, enfermedad cardiovascular, especialmente aterosclerosis, ciertos trastornos de alimentación, en particular la regulación de apetito e ingestión de

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alimentos en sujetos que sufren de trastornos asociados con mala alimentación, tales como anorexia nerviosa y trastornos asociados con sobrealimentación, tales como obesidad y anorexia bulimia. Otras condiciones asociadas con diabetes incluyen síndrome de ovario policístico y resistencia a la insulina inducida por esteroides.

La presente invención además provee un método para el tratamiento y/o profilaxis de diabetes mellitus, condiciones asociadas con diabetes mellitus y ciertas complicaciones de la misma, en un mamífero humano o no humano, que consiste en administrar una cantidad efectiva, no tóxica de Hidrato Clorhídrico a un mamífero humano o no humano que lo requiera.

Para los tratamientos de la invención no se indican efectos toxicológicos adversos.