

ESCOBAR - URIBE ASOCIADOS

A B O G A D O S

Carrera 11A No. 94 - 76 - Of. 305 - P.O. Box 94948, Bogotá, D.C. - Colombia

Tels: (571) 6162051 - Fax (571) 6161889

www.escobaruribe.com - info@escobaruribe.com

Handwritten signature

As: 2598/PCT.

Doctor

GIANCARLO MARCENARO JIMÉNEZ

Superintendente Delegado Para la Propiedad Industrial

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Rad: 03-094854-00003-0000

Rec: 2008-09-28 14:24:55 Dep. 2020 NUECREACIONES

TIT. 11 PATENTE/II

Evo: 370 FABENACIONALH

Act 603 IMPULSOPROCESAL Folios: 1

EXPEDIENTE: 03-094.854

**ASUNTO: Solicitud de patente a nombre de
The Procter & Gamble Company**

Estimado Doctor:

En mi calidad de apoderada de la sociedad solicitante de la patente de la referencia manifiesto a usted lo siguiente:

1. Mediante memorial radicado en ese despacho el 28 de diciembre de 2004, el cual no ha sido resuelto aún, solicité que se realizara el examen de patentabilidad.
2. En vista de que han transcurrido 1 año y 9 meses, sin que se haya atendido dicha solicitud, ruego a usted se sirva dar las instrucciones del caso para que se proceda de inmediato a resolver este asunto.

Cordialmente,

Handwritten signature of Jimena Escobar Uribe
JIMENA ESCOBAR URIBE
CC 39.779.452 de Usaquén.
T.P. 68228

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 December 2000 (14.12.2000)

PCT

(10) International Publication Number
WO 00/74679 A1

(51) International Patent Classification⁷: A61K 31/445,
31/4725, 31/497, 31/4985, 31/5355, 31/541, C07D 209/04,
217/00, 401/14, 403/14, 413/14, 417/14

(21) International Application Number: PCT/US00/14930

(22) International Filing Date: 31 May 2000 (31.05.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/137,477 4 June 1999 (04.06.1999) US
60/169,209 2 December 1999 (02.12.1999) US

(71) Applicant (for all designated States except US): MERCK
& CO., INC. [US/US]; 126 East Lincoln Avenue, Rahway,
NJ 07065-0907 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BAKSHI, Ramana,
K. [IN/US]; 126 East Lincoln Avenue, Rahway, NJ
07065-0907 (US). BARAKAT, Khaled, J. [—/US]; 126
East Lincoln Avenue, Rahway, NJ 07065-0907 (US).
NARGUND, Ravi, P. [US/US]; 126 East Lincoln Avenue,
Rahway, NJ 07065-0907 (US). PALUCKI, Brenda,
L. [US/US]; 126 East Lincoln Avenue, Rahway, NJ
07065-0907 (US). PATCHETT, Arthur, A. [US/US];
126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

SEMHAT, Iyanna [GB/US]; 126 East Lincoln Avenue,
Rahway, NJ 07065-0907 (US). YE, Zhibang [CN/US];
126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).
VAN DER PLOEG, Leonardus, H., T. [NL/US]; 126
East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

(74) Common Representative: MERCK & CO., INC.; 126
East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT,
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,
TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

WO 00/74679 A1

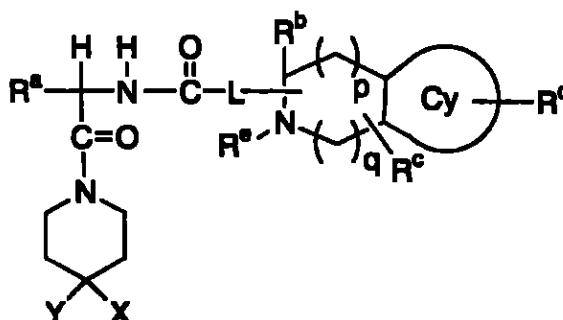
(54) Title: SUBSTITUTED PIPERIDINES AS MELANOCORTIN-4 RECEPTOR AGONISTS

(57) Abstract: Certain novel substituted piperidine compounds are agonists of the human melanocortin receptor(s) and, in partic-
ular, are selective agonists of the human melanocortin-4 receptor (MC-4R). They are therefore useful for the treatment, control, or
prevention of diseases and disorders responsive to the activation of MC-4R, such as obesity, diabetes, sexual dysfunction, including
erectile dysfunction and female sexual dysfunction. Also provided are methods of treating sexual dysfunction with a compound that
is a selective agonist of MC-4R over any other human melanocortin receptor.

262
780

WHAT IS CLAIMED IS:

1. A compound having the formula I:



I

or a pharmaceutically acceptable salt thereof; wherein

Cy is (1) aryl,
 (2) 5- or 6-membered heteroaryl,
 (3) 5- or 6-membered heterocyclyl, or
 (4) 5-to 7-membered carbocyclyl;
 L is (CR^bRR^b)_m;

m is 0, 1 or 2;

n is 0, 1, 2, or 3;

p is 0, 1 or 2;

q is 0, 1 or 2;

R^a is (1) hydrogen,
 (2) C₁₋₈ alkyl,
 (3) (CHR^b)_n-C₃₋₇cycloalkyl,
 (4) (CHR^b)_naryl,
 (5) (CHR^b)_nheteroaryl, or
 (6) (CHR^b)_n-O(CHR^b)aryl;

in which alkyl is optionally substituted with from 1 to 3 groups
 independently selected from R^g; aryl, heteroaryl and cycloalkyl are
 optionally substituted with 1 to 3 groups independently selected from
 R^f;

76+
263.

- R^b is**
- (1) hydrogen,
 - (2) C₁-alkyl,
 - (3) (CH₂)_nC₃₋₇cycloalkyl, or
 - (4) (CH₂)_n-aryl;
- 5
- R^c is**
- (1) hydrogen or
 - (2) a group selected from R^f;
- 10
- R^d is**
- (1) hydrogen,
 - (2) C₁-alkyl,
 - (3) (CH₂)_n-aryl,
 - (4) (CH₂)_nC₃₋₇cycloalkyl or
 - (5) (CH₂)_n-heteroaryl;
- 15
- wherein alkyl and cycloalkyl are optionally substituted with 1 to 3 groups selected from R^g; and cycloalkyl, aryl and heteroaryl are optionally substituted with 1 to 3 groups selected from R^f; or two R^d groups together with the atoms to which they are attached form a 5- or 6- membered ring optionally containing an additional heteroatom selected from O, S, and NR^b;
- 20
- R^e is**
- (1) a group selected from R^d,
 - (2) COR^d,
 - (3) SO₂R^d, or
 - (4) COC(R^b)(R^b)N(R^d)(R^d);
- 25
- R^f is**
- (1) a group selected from R^g, or
 - (2) C₁₋₈ alkyl;
- 30
- R^g is**
- (1) (CH₂)_n-aryl,
 - (2) (CH₂)_nC₃₋₇cycloalkyl,
 - (3) (CH₂)_n-heteroaryl,
 - (4) halo,
 - (5) OR^b,
 - (6) NHSO₂R^b,
 - (7) N(R^b)₂.

264
267

- 5
- (8) $C=N$,
 - (9) CO_2R^b ,
 - (10) $C(R^b)(R^b)N(R^b)_2$,
 - (11) NO_2 ,
 - (12) $SO_2N(R^b)_2$,
 - (13) $S(O)_mR^b$,
 - (14) CF_3 , or
 - (15) OCF_3 ;
- 10 X is
- (1) hydrogen,
 - (2) C_{1-8} alkyl,
 - (3) $(CH_2)_n C_{3-8}$ cycloalkyl,
 - (4) $(CH_2)_n$ aryl,
 - (5) $(CH_2)_n$ heteroaryl,
 - 15 (6) $(CH_2)_n$ heterocyclyl,
 - (7) $C=N$,
 - (8) $(CH_2)_n CON(R^dR^d)$,
 - (9) $(CH_2)_n C(O)OR^d$,
 - (10) $(CH_2)_n NR^dC(O)R^d$,
 - 20 (11) $(CH_2)_n NR^dC(O)OR^d$,
 - (12) $(CH_2)_n NR^dC(O)N(R^d)_2$,
 - (13) $(CH_2)_n NR^dSO_2R^d$,
 - (14) $(CH_2)_n S(O)_mR^d$,
 - (15) $(CH_2)_n SO_2N(R^d)(R^d)$,
 - 25 (16) $(CH_2)_n OR^d$,
 - (17) $(CH_2)_n OC(O)R^d$,
 - (18) $(CH_2)_n OC(O)OR^d$,
 - (19) $(CH_2)_n OC(O)N(R^d)_2$,
 - (20) $(CH_2)_n N(R^d)(R^d)$,
 - 30 (21) $(CH_2)_n NR^dSO_2N(R^d)(R^d)$;

wherein the cycloalkyl, aryl and heteroaryl groups are optionally substituted with 1 to 3 groups selected from R^f ; the heterocyclyl group is optionally substituted with 1 to 3 groups selected from R^f and oxo;

265 783

and the $(CH_2)_n$ and alkyl groups are optionally substituted with 1 to 3 groups selected from R_8 ; and

- Y is
- (1) hydrogen,
 - (2) C_1 -alkyl,
 - (3) $(CH_2)_n C_3$ -cycloalkyl,
 - (4) $(CH_2)_n$ aryl,
 - (5) $(CH_2)_n$ heterocyclyl, or
 - (6) $(CH_2)_n$ heteroaryl;
- wherein the cycloalkyl, aryl and heteroaryl groups are optionally substituted with 1 to 3 groups selected from R^f ; heterocyclyl group is optionally substituted with 1 to 3 groups selected from R^f and oxo; and the alkyl group is optionally substituted with 1 to 3 groups selected from R_8 ;
- with the proviso that X and Y are not both hydrogen.

2. The compound of Claim 1 wherein Cy is selected from the group consisting of benzene, pyridine, pyrazine, piperidine, imidazole and cyclohexane.
3. The compound of Claim 2 wherein Cy is benzene, pyrazine, or cyclohexane.
4. The compound of Claim 1 wherein L is $(CH_2)_m$ wherein m is 0, 1 or 2.
5. The compound of Claim 1 wherein R^a is $CH(R^b)$ -aryl, $CH(R^b)$ - OCH_2 aryl, or $CH(R^b)$ -heteroaryl wherein aryl or heteroaryl is optionally substituted with one or two R_8 groups.
6. The compound of Claim 5 wherein R^a is benzyl optionally substituted with one or two groups selected from halogen, C_{1-4} alkyl, C_{1-4} alkoxy, CF_3 , and OCF_3 .

266

EXAMEN TÉCNICO DE FONDO			
Número de Expediente	03-94874	Fecha de Expediente	28.10.03
Número de Expediente	U 60/28660	Fecha de Expediente	21.09.01
Palabras clave:			
Hidromecánica			
Hidromecánica			

CLASIFICACIONES INTERNACIONALES DE BÚSQUEDA			
AGK 3/33			

DOCUMENTOS CORRESPONDIENTES EN OTRO IDIOMA			
UO 0708975			
Patente Original			

BASES DE DATOS CONSULTADAS			
Deallia			
Elparanet			

INFORMES DE EXÁMENES EN OTRO IDIOMA		
Idioma	Fecha	Revisión

ANTERIORIDADES ENCONTRADAS		
Documento	Fecha	Revisión
UO 00 14679	10/1	1-2

LITERATURA NO PATENTES		
Documento	Fecha	Revisión

Observaciones	
Clasificado - 1261	

Fecha de examen	
07.06.03	