## **PCT**

# WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



#### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

11/11/11/11/11/11/11/11/11/11/11/11/11/					
(51) International Patent Classification <sup>6</sup> :		(11) International Publication Number: WO 98/50016			
A61K 9/00, 31/565	A3	(43) International Publication Date: 12 November 1998 (12.11.98)			
<ul> <li>(21) International Application Number: PCT/IE.</li> <li>(22) International Filing Date: 7 May 1998 (0</li> <li>(30) Priority Data: S970333 7 May 1997 (07.05.97)</li> <li>(71) Applicant (for all designated States except US): (CHEMICALS) LIMITED [IE/IE]; Belgard Road, Dublin 24 (IE).</li> <li>(72) Inventors; and</li> <li>(75) Inventors/Applicants (for US only): PASSMOR [GB/GB]; 108 Malone Road, Belfast (GB). GII Claire [GB/GB]; 17 Orpen Park, Belfast (GB).</li> <li>(74) Agents: O'CONNELL, Maura et al.; F. R. Kelly &amp; University Street, Belfast BT7 1NA (GB).</li> </ul>	GALE Tallagl E, Cla LLIGA	BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), EE, EE (Utility model), ES, FI, FI (Utility model), GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian 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, ML, MR, NE, SN, TD, TG).  Published  With international search report.  9 (88) Date of publication of the international search report:  4 February 1999 (04.02.99)			
(54) Title: INTRAVAGINAL DRUG DELIVERY DEVICES FOR THE ADMINISTRATION OF TESTOSTERONE AND T					

TERONE PRECURSORS

#### (57) Abstract

The invention relates to an intravaginal shell or core drug delivery device suitable for administration to the human or animal female. The device comprises testosterone or a testosterone precursor in a polymer matrix, surrounded by a sheath, and is capable of releasing the testosterone or testosterone precursor in a substantially zero order pattern on a daily basis for at least three weeks. The device is intended to restore circulating testosterone levels to normal physiological range or to induce supratherapeutic testosterone levels.

### FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	$\mathbf{SZ}$	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	ТJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	$\mathbf{z}\mathbf{w}$	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

## INTERNATIONAL SEARCH REPORT

Interna 1 Application No PCT/IE 98/00033

# INTERNATIONAL SEARCH REPORT

Inte tional application No.

PCT/IE 98/00033

Box I	Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)
This Inte	ernational Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. X	Claims Nos.: 7,8 because they relate to subject matter not required to be searched by this Authority, namely:  Remark: Although claim(s) 7,8 is(are) directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2.	Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3.	Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box ii	Observations where unity of invention is lacking(Continuation of item 2 of first sheet)
This Inte	ernational Searching Authority found multiple inventions in this international application, as follows:
1.	As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.	As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.	As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.	No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  K on Protest  The additional search fees were accompanied by the applicant's protest
neman	The additional search fees were accompanied by the applicant's protest.  No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Interns al Application No PCT/IE 98/00033

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 3920805 A	18-11-1975	AU 468194 B AU 4908872 A BE 792502 A CA 985624 A CH 586043 A DE 2259070 A FR 2162628 A GB 1366796 A IN 139365 A JP 1071874 C JP 48062916 A JP 56017325 B NL 7215327 A SE 398198 B ZA 7208177 A	08-01-1976 23-05-1974 08-06-1973 16-03-1976 31-03-1977 20-06-1973 20-07-1973 11-09-1974 12-06-1976 30-11-1981 01-09-1973 22-04-1981 13-06-1973 12-12-1977 25-07-1973
WO 9619196 A	27-06-1996	AU 692659 B AU 4399196 A CA 2207622 A CN 1170353 A EP 0799025 A FI 972579 A IE 950959 A NO 972798 A	11-06-1998 10-07-1996 27-06-1996 14-01-1998 08-10-1997 17-06-1997 26-06-1996 19-08-1997
US 4449980 A	22-05-1984	AU 538961 B AU 7091981 A CA 1182695 A DE 3122506 A DE 8116797 U FR 2483771 A GB 2079158 A,B GR 72701 A IE 51701 B JP 57022750 A NL 8102782 A	06-09-1984 17-12-1981 19-02-1985 25-03-1982 18-02-1988 11-12-1981 20-01-1982 01-12-1983 18-02-1987 05-02-1982 04-01-1982