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(54) Title: LATENT STABILIZATION OF BIOACTIVE AGENTS RELEASABLE FROM IMPLANTABLE MEDICAL ARTICLES

(57) Abstract: Implantable medical articles comprising natural biodegradable polysaccharides are described. The polysaccharides can provide desirable release properties, and can also be degraded into products that can act as an excipient in the presence of the bioactive agent. In some aspects, the articles are ocular implants formed of a matrix of natural biodegradable polysaccharides. These ocular implants include a bioactive agent that can be released within the eye to treat an ocular condition or indication.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/255142 A1 (CHUDZIK STEPHEN J [US] ET AL) 17 November 2005 (2005-11-17) claims 1,4,5,11	1-20
A	WO 96/18423 A (MEDICARB AB [SE]; LARM OLLE [SE]; GOUDA IBRAHIM [SE]) 20 June 1996 (1996-06-20) page 2, lines 10-12,19-21	1-20
P, X	WO 2007/038126 A (SURMODICS INC [US]; VARNER SIGNE E [US]; BEELEY NATHAN R F [US]; CHUDZ) 5 April 2007 (2007-04-05) page 5, line 16 - page 8, line 24	1-20
A	EP 0 775 495 A (STUDY CENTER OF ALLERGY PROJEC [NL] STUDY CT OF ALLERGY PROJECTS S [NL]) 28 May 1997 (1997-05-28) column 1, lines 1-8	1-20
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O document referring to an oral disclosure, use, exhibition or other means

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Date of the actual completion of the international search

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	MULHBACHER J ET AL: "Cross-linked high amylose starch derivatives as matrices for controlled release of high drug loadings" JOURNAL OF CONTROLLED RELEASE, ELSEVIER, AMSTERDAM, NL, vol. 76, no. 1-2, 11 September 2001 (2001-09-11), pages 51-58, XP004302037 ISSN: 0168-3659 table 1 -----	17-20

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/US2007/025073

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005255142	A1	NONE	
<hr/>			
WO 9618423	A	20-06-1996	
		AT 240127 T	15-05-2003
		AU 689686 B2	02-04-1998
		AU 4276096 A	03-07-1996
		CA 2207740 A1	20-06-1996
		DE 69530789 D1	18-06-2003
		DE 69530789 T2	18-03-2004
		EP 0797459 A1	01-10-1997
		ES 2196094 T3	16-12-2003
		FI 972527 A	13-06-1997
		JP 10510728 T	20-10-1998
		JP 3448064 B2	16-09-2003
		NO 972747 A	13-08-1997
		SE 503711 C2	12-08-1996
		SE 9404362 A	15-06-1996
		US 5885647 A	23-03-1999
<hr/>			
WO 2007038126	A	05-04-2007	
		CA 2621597 A1	05-04-2007
		CA 2621657 A1	29-03-2007
		EP 1926504 A1	04-06-2008
		EP 1926505 A1	04-06-2008
		JP 2009508646 T	05-03-2009
		JP 2009508653 T	05-03-2009
		WO 2007035865 A1	29-03-2007
<hr/>			
EP 0775495	A	28-05-1997	
		DE 69520278 D1	12-04-2001
		DE 69520278 T2	20-09-2001
		ES 2156181 T3	16-06-2001
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