Title (en)

INJECTABLE BIODEGRADABLE BLOCK COPOLYMER GELS FOR USE IN DRUG DELIVERY

Title (de)

INJIZIERBARE BIOLOGISCH ABBAUBARE BLOCKCOPOLYMERGELE ZUR VERWENDUNG IN DER ARZNEISTOFFVERABREICHUNG

Title (fr)

COPOLYMERES BLOCS EN GELS INJECTABLES ET BIODEGRADABLES SERVANT A ADMINISTRER UN MEDICAMENT

Publication

EP 1024790 A4 20001025 (EN)

Application

EP 98940801 A 19980808

Priority

- US 9816418 W 19980808
- US 5517497 P 19970808
- US 13096798 A 19980807

Abstract (en)

[origin: WO9907343A1] A system and method for the parenteral delivery of a drug in a biodegradable polymeric matrix to a warm blooded animal as an aqueous liquid with the resultant formation of a hydrogel depot for the controlled release of the drug. The system comprises an injectable biodegradable block copolymeric drug delivery liquid having thermal gelation properties. The copolymer has a gel/sol transition temperature such that, above the body temperature of the animal to which it is administered, it is a solution and when administered and cooled to body temperature it forms a hydrogel. The copolymer is made up of (i) a hydrophobic A polymer block of poly (alpha -hydroxy acid) and (ii) a hydrophilic B polymer block comprising a poly(ethylene oxide). The drug is released at a controlled rate from the copolymer which biodegrades into non-toxic products. The gel/sol transition temperature and degradation rate can be adjusted by proper selection of the molecular weight and concentration of the poly (alpha -hydroxy acid) and poly(ethylene oxide) polymer block components.

IPC 1-7

A61K 9/10; C08K 13/02; C08L 67/04; C08L 71/02; A61K 47/34

IPC 8 full level

A61K 9/00 (2006.01); **A61K 9/10** (2006.01); **A61K 9/107** (2006.01); **A61K 47/30** (2006.01); **A61K 47/34** (2006.01); **C08G 63/06** (2006.01); **C08L 71/02** (2006.01); A61K 9/51 (2006.01)

CPC (source: EP KR)

A61K 9/0024 (2013.01 - EP); **A61K 9/1075** (2013.01 - EP); **A61K 47/30** (2013.01 - KR); **A61K 47/34** (2013.01 - EP); **C08L 71/02** (2013.01 - EP)

Citation (search report)

- [X] EP 0717999 A1 19960626 - UNIV MIAMI [US]
- [X] US 5476909 A 19951219 - KIM GUN P [KR], et al
- [X] WO 9710849 A1 19970327 - SAM YANG CO [KR], et al
- [X] MARTINI L ET AL: "MICELLISATION AND GELATION OF TRIBLOCK COPOLYMER OF ETHYLENE OXIDE AND EPSILON-CAPROLACTONE, CLNEMCLN, IN AQUEOUS SOLUTION", JOURNAL OF THE CHEMICAL SOCIETY. FARADAY TRANSACTIONS,GB,ROYAL SOCIETY OF CHEMISTRY, CAMBRIDGE, vol. 90, no. 13, 7 July 1994 (1994-07-07), pages 1961 - 1966, XP000454914, ISSN: 0956-5000
- [XP] JEONG B ET AL: "BIODEGRADABLE BLOCK COPOLYMERS AS INJECTABLE DRUG-DELIVERY SYSTEMS", NATURE,GB,MACMILLAN JOURNALS LTD. LONDON, vol. 388, no. 6645, 28 August 1997 (1997-08-28), pages 860 - 862, XP002068338, ISSN: 0028-0836
- See references of WO 9907343A1

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

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DOCDB simple family (application)

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