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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 June 2011 (16.06.2011)

PCT

(10) International Publication Number
WO 2011/069475 A3

(51) International Patent Classification:
C08B 37/00 (2006.01) *A61K 47/48* (2006.01)
A61K 31/728 (2006.01) *C08G 81/00* (2006.01)

(21) International Application Number:
PCT/CZ2010/000129

(22) International Filing Date:
10 December 2010 (10.12.2010)

(25) Filing Language: Czech

(26) Publication Language: English

(30) Priority Data:
PV 2009-835 11 December 2009 (11.12.2009) CZ

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
11 August 2011

WO 2011/069475 A3

(54) Title: A METHOD OF PREPARATION OF AN OXIDIZED DERIVATIVE OF HYALURONIC ACID AND A METHOD OF MODIFICATION THEREOF

(57) Abstract: The invention relates to a new method of preparation of a hyaluronan derivative with an aldehydic group in the position (6) of the polysaccharide glucosamine part. The hyaluronic acid oxidation can be performed by means of TEMPO/NaClO or TEMPO/TCC systems in a protic environment with or without the presence of anorganic salts. Thus prepared aldehyde can be used for binding amines, diamines, amino acids, peptides and other compounds containing an amino group, e.g. by means of the reductive amination with $NaBH_3CN$ in water or in a water-organic solvent system. When a diamine or compounds containing three or more amino groups are used, cross-linked hyaluronan derivatives can be prepared. Cross-linked derivatives can be also prepared by a reaction of the aldehyde with a hyaluronan substituted by an amino-alkyl group HA-alkyl-NH_2.

INTERNATIONAL SEARCH REPORT

International application No
PCT/CZ2010/000129

A. CLASSIFICATION OF SUBJECT MATTER
INV. C08B37/00 A61K31/728 A61K47/48 C08G81/00
ADD.

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)
C08B A61K C08G

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, BIOSIS, EMBASE, MEDLINE, 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	JIANG B ET AL: "Study on TEMPO-mediated selective oxidation of hyaluronan and the effects of salt on the reaction kinetics", CARBOHYDRATE RESEARCH, PERGAMON, GB, vol. 327, no. 4, 7 August 2000 (2000-08-07), pages 455-461, XP004213357, ISSN: 0008-6215, DOI: DOI:10.1016/S0008-6215(00)00059-8 the whole document	1-20

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[X] Further documents are listed in the continuation of Box C.

[ ] See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
27 May 2011	15/06/2011

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Form PCT/ISA/210 (second sheet) (April 2005)

INTERNATIONAL SEARCH REPORT

International application No
PCT/CZ2010/000129

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DING B ET AL: "TEMPO-mediated selective oxidation of substituted polysaccharides-an efficient approach for the determination of the degree of substitution at C-6", CARBOHYDRATE RESEARCH, PERGAMON, GB, vol. 343, no. 18, 8 December 2008 (2008-12-08), pages 3112-3116, XP025625802, ISSN: 0008-6215, DOI: DOI:10.1016/J.CARRES.2008.09.005 [retrieved on 2008-09-10] the whole document -----	1-20
A	ANGELIN ET AL.: "Direct, Mild, and Selective Synthesis of Unprotected Dialdo-Glycosides", EUR. J. ORG. CHEM., 1 January 2006 (2006-01-01), pages 4323-4326, XP002637227, DOI: 10.1002/ejoc.200600288 the whole document -----	1-20
A	CORNWELL ET AL: "A one-step synthesis of cyclodextrin monoaldehydes", TETRAHEDRON LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 36, no. 46, 13 November 1995 (1995-11-13), pages 8371-8374, XP005270626, ISSN: 0040-4039, DOI: DOI:10.1016/0040-4039(95)01808-U the whole document -----	1-20

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