



(51) International Patent Classification:

C07K 14/535 (2006.01) *A61K* 47/48 (2006.01)
A61K 38/18 (2006.01) *A61P* 7/00 (2006.01)

(21) International Application Number:

PCT/RU2011/000532

(22) International Filing Date:

19 July 2011 (19.07.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2010133875 13 August 2010 (13.08.2010) RU

(71) Applicant (for all designated States except US):
CLOSED JOINT STOCK COMPANY "BIOCAD"
 [RU/RU]; p/o Petrovo-Dalnee, Krasnogorsky district,
 Moskovskaya obl., 143422 (RU).

(72) Inventors: **CHERNOVSKAYA, Tatyana Veniaminovna**; ul. Sportivnaya, 11-24, Lyubuchany, Chekhovsky district, Moskovskaya obl., 142380 (RU). **DENISOV, Lev Alexandrovich**; Ogorodny per., 11, Klimovsk, Moskovskaya obl., 142380 (RU). **RUDEENKO, Elena Georgievna**; ul. Sportivnaya, 11-17, Lyubuchany, Chekhovsky district, Moskovskaya obl., 142380 (RU). **MOROZOVA, Elena Leonidovna**; ul. Yunyh lenincev, 18/1-21, Moscow, 109263 (RU).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **MOROZOV, Dmitriy Valentinovich** [RU/RU]; Leninsky prospect, 35-54, Moscow, 119071 (RU).

(74) Agent: **MUKHINA, Anna Konstantinovna**; CLOSED JOINT STOCK COMPANY "BIOCAD", p/o Petrovo-Dalnee, Krasnogorsky district, Moskovskaya obl., 143422 (RU).

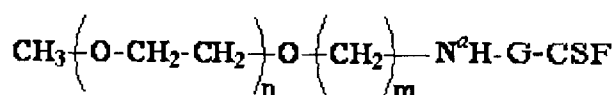
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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).

Published:

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

(54) Title: A NOVEL CONJUGATE OF GRANULOCYTE COLONY-STIMULATING FACTOR (G-CSF) WITH POLYETHYLENE GLYCOL



(I)

(57) Abstract: The present invention relates to pharmaceuticals and medicine, namely, to new physiologically active conjugates of granulocyte colony-stimulating factor (G-CSF) with the general formula (I) where: n - integers from 681 to 1 000; m - integer ≥ 4 ; $\text{N}^{\text{H}}\text{H}-\text{G-CSF}$ - natural or recombinant polypeptide, having the activity of G-CSF. The invention is also related to medicines containing the claimed conjugate of formula (I), pharmaceutical compositions, the use of conjugate of formula (I) for drugs and medicines with granulocyte colony stimulating factor as an active ingredient, approaches to prevent and / or treat neutropenia, the container that comprises pharmaceutical composition.

