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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
11 November 2004 (11.11.2004)

PCT

(10) International Publication Number
WO 2004/097006 A1

(51) International Patent Classification[7]: C12N 1/02, C12P 1/00, C12M 3/00, C12N 5/00

(21) International Application Number: PCT/NL2004/000300

(22) International Filing Date: 3 May 2004 (03.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03101205.7 1 May 2003 (01.05.2003) EP

(71) Applicant *(for all designated States except US)*: **DSM IP ASSETS B.V.** [NL/NL]; Het Overloon 1, NL-6411 TE Heerlen (NL).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **POL, VAN DER, Leonardus, Adolfus** [NL/NL]; Adelheidstraat 22, NL-9717 AS Groningen (NL).

(74) Agent: **HABETS, Winand, Johannes, Petrus**; Intellectual Property, P.O. Box 9, NL-6160 MA Geleen (NL).

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

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2004/097006 A1

(54) Title: PROCESS FOR THE PRODUCTION OF BIOLOGICAL SUBSTANCES BY PERFUSION CULTURING OF SUSPENDED ANIMAL CELLS

(57) Abstract: The invention relates to a process for the production of a biological substance by perfusion culturing of suspended animal cells in a serum free cell culture medium, wherein the biological substance is separated from the cells by filtration, characterized in that at least 0.001w/w% nonionic surfactant is present in the cell culture medium. It has been found that the presence of nonionic surfactant in the cell culture medium improves the filter performance.