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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
28 July 2011 (28.07.2011)

PCT

(10) International Publication Number
WO 2011/089921 A1

(51) **International Patent Classification**:
C07K 7/06 (2006.01) ***A61P 35/00*** (2006.01)
A61K 38/00 (2006.01)

(21) **International Application Number**:
PCT/JP2011/000352

(22) **International Filing Date**:
24 January 2011 (24.01.2011)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
61/297,996 25 January 2010 (25.01.2010) US

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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:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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

— *with sequence listing part of description (Rule 5.2(a))*

WO 2011/089921 A1

(54) **Title**: MODIFIED MELK PEPTIDES AND VACCINES CONTAINING THE SAME

(57) **Abstract**: Isolated peptides composed of the amino acid sequence of the modified MELK epitope peptide or immunologically active fragments thereof that bind to HLA antigens and have higher cytotoxic T lymphocyte (CTL) inducibility than that of the wild type MELK epitope peptide and thus are suitable for use in the context of cancer immunotherapy or endometriosis immunotherapy, more particularly cancer or endometriosis vaccines are described herein. The present invention further provides peptides that include one, two, or several amino acid insertions, substitutions or additions to the aforementioned peptides or fragments, but yet retain the requisite cytotoxic T cell inducibility. Further provided are nucleic acids encoding any of these aforementioned peptides as well as pharmaceutical substances and compositions including any of the aforementioned peptides or nucleic acids. The peptides, nucleic acids, pharmaceutical substances and compositions of this invention find particular utility in the treatment of cancers, tumors, and endometriosis.