

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
6 April 2006 (06.04.2006)

PCT

(10) International Publication Number
WO 2006/036834 A3

(51) International Patent Classification:

C07K 19/00 (2006.01) **A61K 47/48** (2006.01)
C12N 15/62 (2006.01) **C07K 14/515** (2006.01)
C12N 15/70 (2006.01) **C07K 14/475** (2006.01)
C12N 1/21 (2006.01) **C07K 14/52** (2006.01)
C07K 16/00 (2006.01) **C07K 14/505** (2006.01)

(21) International Application Number:

PCT/US2005/034273

(22) International Filing Date:

23 September 2005 (23.09.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/612,680 24 September 2004 (24.09.2004) US

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(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, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, 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, IS, IT, LT, LU, LV, 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

(88) Date of publication of the international search report:

29 June 2006

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.

(54) Title: MODIFIED Fc MOLECULES

(57) Abstract: The present invention concerns molecules and a process in which one or more biologically active peptides are incorporated into an Fc domain. In this invention, pharmacologically active compounds may be prepared by a process comprising (a) selecting at least one peptide that modulates the activity of a protein of interest; and (b) preparing a pharmacologic agent comprising an amino acid sequence of the selected peptide in a loop region of an Fc domain. This process may be employed to modify an Fc domain that is already linked through an N- or C-terminus or sidechain to a peptide or to a polypeptide (e.g., etanercept). This process may also be employed to modify an Fc domain that is part of an antibody (e.g., adalimumab, epratuzumab, infliximab, Herceptin®, and the like). In this way, different molecules can be produced that have additional functionalities, such as a binding domain to a different epitope or an additional binding domain to the precursor molecule's existing epitope. The peptide can be selected, for example, by phage display, *E. coli* display, ribosome display, RNA-peptide screening, yeast-based screening, chemical-peptide screening, rational design, or protein structural analysis.

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