PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 :
C12N 5/00, 5/06, 5/08

A1

(11) International Publication Number: WO 94/01534

(43) International Publication Date: 20 January 1994 (20.01.94)

(21) International Application Number: PCT/US93/06506

(22) International Filing Date: 9 July 1993 (09.07.93)

(30) Priority data:

911,989	10 July 1992 (10.07.92)	US
996,544	24 December 1992 (24.12.92)	US
069,315	28 May 1993 (28.05.93)	US

(71) Applicant: THE UNIVERSITY OF PITTSBURGH [US/US]; Cathedral of Learning, Pittsburgh, PA 15213 (US).

(72) Inventors: ILDSTAD, Suzanne, T. ; 521 Old Mill Road, Pittsburgh, PA 15238 (US). SIMMONS, Richard, L. ; 123 South Murtland Avenue, Pittsburgh, PA 15208 (US). RICORDI, Camillo ; 6818 Reynolds Street, Pittsburgh, PA 15208 (US). WREN, Sherry, M. ; 6225F Monitor Street, Pittsburgh, PA 15217 (US). KAUFMAN, Christina ; 405 East 11th Street, Munhall, PA 15120 (US).

(74) Agents: POISSANT, Brian, M. et al.; Pennie & Edmonds, 1155 Avenue of the Americas, New York, NY 10036 (US).

(81) Designated States: AU, BB, BG, BR, BY, CA, CZ, HU, JP, KP, KR, KZ, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: HEMATOPOIETIC FACILITATORY CELLS AND THEIR USES

(57) Abstract

The present invention relates to mammalian hematopoietic facilitatory cells (FC). In particular, it relates to the isolation, characterization and uses of the FC. The FC of the present invention can be distinguished from all other known bone marrow cells by their morphology, cell surface phenotype and *in vivo* function. It has now been established that purified hematopoietic stem cells alone or bone marrow cells depleted of FC do not readily engraft in a recipient. When co-administered with other bone marrow cells, especially the hematopoietic stem cells into a recipient, the FC enhance their engraftment, without apparent adverse biologic activities. In fact, the ability of the FC to enhance the engraftment of bone marrow cells in establishing lymphohematopoietic chimerism without producing graft versus host disease also induces donor-specific tolerance to permit the permanent acceptance of donor's cells, tissues and organs. Therefore, FC may have a wide range of applications, including, but not limited to, hematopoietic reconstitution by bone marrow transplantation for the treatment of cancers, anemias, autoimmunity, immunodeficiency, viral infections and metabolic disorders as well as facilitation of solid organ, tissue and cellular transplantation.

This Sheet Has Been Replaced

