

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### National Institutes of Health

#### Government-Owned Inventions; Availability for Licensing

**AGENCY:** National Institutes of Health, HHS.

**ACTION:** Notice.

**SUMMARY:** The inventions listed below are owned by agencies of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

**ADDRESSES:** Licensing information and copies of the U.S. patent applications listed below may be obtained by contacting Susan S. Rucker, J.D., at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852-3804; telephone 301/496-7056 ext. 245; fax 301/402-0220; e-mail ruckers@od.nih.gov. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

#### Hybrid Adeno-Retroviral Vector for the Transformation of Cells

C Zheng, B O'Connell, BJ Baum (NIDCR) Serial No. 60/265,198 filed Jan 30, 2001

This invention described and claimed in this patent application provides for novel hybrid vectors which may be used for cell transformation either *in vivo*, *in vitro*, or *ex vivo*. The hybrid vectors, which are capable of integrating into the chromosome of the host cell and are capable of transforming dividing or non-dividing cells, have an adenoviral backbone and only a single retroviral long terminal repeat (LTR). Due to their hybrid nature, these vectors provide a means of efficient, reliable, long-term gene expression. Furthermore, unlike other chimeric or hybrid vector systems only a single vector is required to deliver a transgene of interest and retroviral structural proteins are not required. The vectors may be packaged and delivered via a viral particle or directly to the target cell.

#### ARG, a Human Gene Related to but Distinct From ABL Proto-Oncogene

GD Kruh, SA Aaronson (NCI) Serial No. 07/559,029 filed Jul 30, 1990 now US Patent 5,693,778 issued Dec 02, 1997

This patent relates to the identification, isolation and cloning of the gene ARG (abelson related gene) also known as ABL2. ARG/ABL2 is located on the long arm of chromosome 1 at 1q24-q25. It is a non-receptor tyrosine kinase. Recent work, by Iijima, et al. Blood 95(6): 2126-2131 (March 15, 2000) and Cazzaniga, et al Blood 94(12):4370-4373 (December 15, 1999), has demonstrated that ABL2/ARG is a partner with the ETV6/TEL gene. ETV6/TEL, located on the short arm of chromosome 12 at 12p13 has previously been implicated in hematological disease, particularly leukemias, through chromosomal translocations. The fusion protein derived from this partnership between ETV6/TEL and ARG/ABL2 includes exons 1-5 of ETV6 (5' PNT region) and the 3' portion of ARG/ABL2 beginning with exon 1B or 2 which contains all of the functional domains of ARG/ABL2. This new work suggests that ARG plays a role in AML and possibly other leukemias.

This work has been published at Kruh GD, et al. Science 234(4783):1545-8 (Dec 19, 1986) and Kruh GD, et al. PNAS, USA 87:5802 (Aug 1990).

Dated: March 6, 2001.

#### Jack Spiegel,

Director, Division of Technology, Development and Transfer, Office of Technology Transfer, National Institutes of Health.

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Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852-3804; telephone: 301/496-7057; fax: 301/402-0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

#### Novel Attenuated Strains of Mycobacterium Tuberculosis

CE Barry, Y Yuan, D Crane (NIAID) DHHS Reference No. E-238-97/2 filed Jun 27, 2000

Licensing Contact: Carol Salata; 301/496-7735 ext. 232; e-mail: salatac@od.nih.gov

This invention provides for novel attenuated strains of *Mycobacterium tuberculosis* and *M. bovis*. Attenuation is achieved by deleting the gene encoding the alpha-crystallin heat shock protein ("acr gene"). This gene contributes to the virulence of the organism. Since this strain is isogenic with virulent *M. tuberculosis* but for this deletion, the full complement of antigens remains present and the organism is viable *in vitro*. The invention provides for vaccines and methods of vaccinating mammals for protection against *Mycobacterium sp.* that cause tuberculosis. This invention was filed as PCT/US98/14227 on Jul 09, 1998.

#### Methods and Compositions for Transforming Dendritic Cells and Activating T Cells

Patrick Hwu, Mark E. Reeves, Steven A. Rosenberg (NCI)

DHHS Reference Nos. E-040-96/0 filed Feb. 08, 1996, E-040-96/1 filed Feb. 07, 1997

(PCT/US97/02063); E-040-96/2 filed Jan. 07, 1999

Licensing Contact: Elaine White; 301/496-7056 ext. 282; e-mail: gesee@od.nih.gov

This invention describes a novel method for making transformed dendritic cells, which are potent antigen presenting cells capable of stimulating the immune system. Hematopoietic stem cells are transformed with a specific nucleic acid; the transformed cell is then differentiated into a dendritic cell *in vitro*. The nucleic acid produces a polypeptide, fragments of which are expressed on the major histocompatibility complex (MHC) receptors on the surface of the dendritic cell. These cells may then be used to activate T cells against specific target antigens. Use of specific antigens for transduction into the dendritic cells is described. The invention therefore may represent a valuable tool for use in the treatment of a number of diseases,