

MELANOMA-ASSOCIATED ANTIGEN-A (MAGE-A3/A6) -SPECIFIC MONOCLONAL ANTIBODY

SUMMARY (1024-CHARACTER LIMIT)

Researchers at the National Cancer Institute (NCI) developed a monoclonal antibody that can be used for screening patients eligible for T cell receptor immunotherapy. NCI seeks licensing and/or co-development partners for this invention.

NIH REFERENCE NUMBER

E-025-2017

PRODUCT TYPE

- Diagnostics

KEYWORDS

- Melanoma-Associated Antigen-A, MAGE, Antibody, Immunotherapy, Melanoma, Diagnostic, Research Material/Tool, Rosenberg

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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STATUS

Active

DESCRIPTION OF TECHNOLOGY

A T cell receptor (TCR) recognizing melanoma-associated antigen-A (MAGE-A3/A6) is currently used in clinical trials involving adoptive transfer of TCR-transduced T cells for patients with metastatic cancer. To be eligible for this TCR immunotherapy, tumor specimens from patients must show homogeneous expression of MAGE-A3 and/or MAGE-A6. Currently-available antibodies recognize additional members of the MAGE-A family and/or are cross-reactive because they were raised by epitopes shared among the MAGE-A family members.

MAGE-A3 and MAGE-A6 are members of the MAGE-A family of twelve homologous proteins. The

MAGE-A proteins are cancer testis antigens (CTA) that are expressed only in tumor cells and non-MHC expressing germ cells of the testis and placenta. MAGE-A3 and MAGE-A6 proteins are expressed in a variety of human cancers including, but not limited to, melanoma, leukemia, multiple myeloma, synovial cell sarcoma, urothelial cancer and cancers of the breast, thyroid, stomach, pancreas, liver (e.g., hepatocellular carcinoma), lung (e.g., non-small cell lung carcinoma), ovaries, , esophagus, kidney, head (e.g., squamous cell carcinoma), neck (e.g., squamous cell carcinoma), and prostate.

Researchers at the National Cancer Institute (NCI) developed a monoclonal antibody against MAGE-A3/A6, where the antibody and antigen binding fragment specifically bind to human MAGE-A3 and human MAGE-A6, and the antibody is a rabbit antibody. The antibody can be used for screening patients eligible for T cell receptor immunotherapy.

The NCI seeks licensing and/or co-development research collaborations to commercialize and develop this monoclonal antibody against MAGE-A3/A6.

POTENTIAL COMMERCIAL APPLICATIONS

- Diagnostic for patient eligibility screening in immunotherapy
- May become a diagnostic tool for patients with certain types of cancer

COMPETITIVE ADVANTAGES

- The NCI invention allows for targeted identification of MAGE-A3 and MAGE-A6, whereas current commercially available MAGE-A3 antibodies are cross-reactive to other members of the MAGE-A family

INVENTOR(S)

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DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PUBLICATIONS

Rosenberg SA, et al. Treatment of Patients with Metastatic Cancer Using a Major Histocompatibility Complex Class II-Restricted T-Cell Receptor Targeting the Cancer Germline Antigen MAGE-A3. [[PMID 28809608](#)]

Rosenberg SA, et al. Isolation and Characterization of an HLA-DPB1*04: 01-restricted MAGE-A3 T-Cell Receptor for Cancer Immunotherapy. [[PMID 27163739](#)]

PATENT STATUS

- **U.S. Provisional:** U.S. Provisional Patent Application Number 62/425,231 , Filed 20 Nov 2016
- **U.S. Patent Filed:** U.S. Patent Application Number PCT/US2017/060097 , Filed 06 Nov 2017

RELATED TECHNOLOGIES

- E-266-2011
- E-230-2012

THERAPEUTIC AREA

- Cancer/Neoplasm