Immunogenic Antigen Selective Cancer Immunotherapy

Summary (1024-character limit)
Researchers at the National Institute on Aging working on cancer immunotherapy and detection report the use of SPANX-B polypeptides in the treatment and identification of cancer. Specific human malignancies targeted for the treatments disclosed include melanoma and lung, colon, renal, ovarian and breast carcinomas. The NIA seeks parties interested in licensing or collaborative research to further develop, evaluate, or commercialize SPANX-B polypeptides in the treatment and identification of cancer.

NIH Reference Number
E-089-2009

Product Type
• Therapeutics

Keywords
• melanoma, SPANX-B, polypeptides

Collaboration Opportunity
This invention is available for licensing and co-development.

Contact
• Michael Salgaller, Ph.D.
  NCI - National Cancer Institute

  240-276-5476

  michael.salgaller@nih.gov

Description of Technology
Melanoma is a particularly aggressive form of cancer primarily caused by over-exposure to sunlight. Although melanoma can strike at any age, the malignancy disproportionately impacts persons of advanced age, as these individuals often have decades of repeated exposure to harmful levels of ultraviolet radiation. Scientists at NIH among others have clarified the link between advanced melanoma and other malignancies and expression of SPANX-B.

Researchers at the National Institutes of Health (NIH) characterized this novel tumor-associated antigen, SPANX-B, as naturally immunogenic and expressed in a variety of human malignancies, including melanoma and lung, colon, renal, ovarian and breast carcinomas. In melanoma specifically, SPANX-B expression associates with advanced and metastatic disease. Moreover, the researchers found several agonist epitope peptides from SPANX-B that can be used to activate the immune system to eradicate
tumors utilizing T cells. SPANX-B peptides have significant clinical and immunotherapeutic potential for the development of cancer diagnostic assays and potent protective and/or therapeutic vaccines to combat a wide-range of cancers.

The National Institute on Aging, a division of NIH, seeks statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize SPANX-B polypeptides in the treatment and identification of cancer. In addition, NIA is interested in collaborative research relationships whereby resources such as intellectual property can be pooled and applied to the development of therapies with respect to melanoma and lung, colon, renal, ovarian and breast carcinomas.

**Potential Commercial Applications**

* In vitro diagnostic assays for highly-metastatic melanomas or other cancers
* Therapeutic monoclonal antibodies
* Cancer vaccine development

**Competitive Advantages**

* Immunogenic: SPANX-B peptides are naturally able to elicit immune response.
* SPANX-B expressed in a wide-range of cancers.
* Use of epitope peptides disclosed by NIH facilitates the activation of cells of the more therapeutically effective branch of the immune system.
* Small epitope peptides of this disclosure more easily manufactured in contrast to recombinant proteins.

**Inventor(s)**

Bira Arya (NIA), Vladimir L. Larionov (NIA)

**Development Stage**

- Discovery (Lead Identification)

**Publications**

Almanzar G et al. [PMID: 19276289]

**Patent Status**

- **U.S. Patent Issued:** U.S. Patent Number 8664183, Issued 04 Mar 2014
- **U.S. Patent Issued:** U.S. Patent Number 9238684, Issued 19 Jan 2016

**Therapeutic Area**

- Cancer/Neoplasm