

IMPROVED VACCINES FOR THE TREATMENT OF PROSTATE AND BREAST CANCER

SUMMARY

The National Cancer Institute's Vaccine Branch seeks partners interested in collaborative research to continue clinical development and/or license a multi-epitope therapeutic cancer vaccine. The research is in early-stage clinical evaluation, with in vitro and in vivo (animal and human) data available.

REFERENCE NUMBER

E-047-2014

PRODUCT TYPE

- Therapeutics
- Vaccines

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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DESCRIPTION OF TECHNOLOGY

The development of more targeted means of treating cancer is vital. One option for a targeted treatment is the creation of a vaccine that induces an immune response only against cancer cells. In this sense, vaccination involves the introduction of a peptide into a patient that causes the formation of antibodies or T cells that recognize the peptide. If the peptide is from a protein found selectively on/in cancer cells, those antibodies or T cells can trigger the death of those cancer cells without harming non-cancer cells. This can result in fewer side effects for the patient.

TARP (T cell receptor gamma alternate reading frame protein) is a protein that is selectively expressed on the cells of about 95% of prostate cancers and about 50% of breast cancers. This invention concerns the identification of a combination of immunogenic multi-epitope peptides within TARP and their use to create an anti-cancer immune response in patients. By introducing these seven peptides into a patient, an immune response against these cancer cells can be initiated by the peptides, resulting in treatment of any cancer associated with increased or preferential expression of TARP, with specific diseases including breast cancer and prostate cancer.

Collaboration in the form of co-development and/or licensing is sought by the NCI. Phase I and pre-IND data are available.

POTENTIAL COMMERCIAL APPLICATIONS

- Peptides can be used as vaccines to induce an immune response against cancer
- Treatment of any cancer associated with increased or preferential expression of TARP
- Specific diseases include breast cancer, prostate cancer and mesothelioma

COMPETITIVE ADVANTAGES

- Targeted therapy decreases non-specific killing of healthy, essential cells, resulting in fewer non-specific side-effects and healthier patients
- Use of multiple peptides permits production of a more thorough complement of T cells against the antigen

INVENTOR(S)

[Lauren V. Wood \(NCI\)](#), [Jay A. Berzofsky \(NCI\)](#), [Brenda D. Roberson \(NCI\)](#), and [Masaki Terabe \(NCI\)](#)

DEVELOPMENT STAGE

- Clinical

PUBLICATIONS

1. Epel M, et al. [[PMID:18446790](#)]
2. Oh S, et al. [[PMID 15059918](#)]

PATENT STATUS

- **U.S. Filed:** PCT/US2014/0070144 filed 12Dec2014

THERAPEUTIC AREA

- Cancer/Neoplasm