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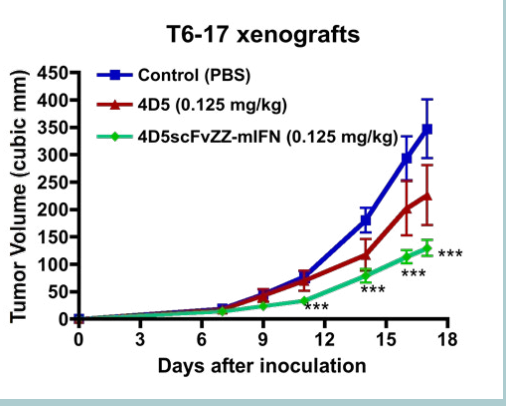

Cancer Therapeutics

Targeted immunotherapy for the treatment of Her2 cancer

Docket # Z6724

STATE OF DEVELOPMENT

- Demonstrated synergistic in vivo activity of anti-HER2/neu antibody and IFN-gamma; tumor growth in the combination group was significantly suppressed compared with the control or single treatment groups.
- In vivo activity of this novel fusion protein has been shown to suppress tumor growth more than the antibody in xenografts.

INTELLECTUAL PROPERTY

International Patent application PCT/US2014/050442 Filed August 8, 2014

REFERENCE MEDIA

http://www.bcrfcure.org/researchers/mark-i-greene

DESIRED PARTNERSHIPS

Collaboration

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Technology Overview

The erbB family of receptors such as HER2, EGFR, and HER4 are present on the surface of breast cancer cells and their overexpression are often associated with breast tumor growth. Dr. Greene's lab has developed a novel therapeutic complex comprising new targeted monoclonal antibody proteins that are administered with IFN-gamma, allowing for a prolonged inhibition of erbB2Her2/neu or EGFR-mediated tumor growth.

This invention provides a fusion protein comprising a stretch of consecutive amino acids; the first of which is the sequence of an anti-p185her2/neu polypeptide, the second of which is a polypeptide capable of inducing ADCC function,, and a third of which comprises IFN-gamma. This fusion protein may be a method of maximally inhibiting growth of human breast tumors that are resistant to the anti-HER2 antibody.

Advantages

- IFN-gamma in combination with antibody against HER2 leads to a synergistic reduction of tumor size for HER2 cancers.
- This antibody specificity can lead to clinical applications using IFN-gamma with anti-ErbB antibodies (Herceptin, Pertuximab, Erbitux, etc)
- Lowered dosage; advantage for lowering health care cost.

Inventor

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http://www.afcri.upenn.edu/ourfaculty/green_bio.html