



**Susan G. Komen
Research Grants – Fiscal Year 2014**

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Re-targeting virus-specific CD8+ T cells to recognize and attack breast tumors

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Lead Organization: British Columbia Cancer Agency Branch

Grant Mechanism: PDR Basic and Translational

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Public Abstract:

It is well documented that the immune system plays an important role in fighting cancer. A critical question in cancer therapy is how to enhance the immune response against tumor cells, while sparing normal cells. This is a challenging problem since many cancer cells share features with their normal counterparts, and therefore might not always be recognized as “foreign” by the immune system. Our project addresses this issue by inducing tumor cells to display fragments of proteins from common viruses so as to make tumors appear virally infected. Since most individuals have strong pre-existing immune responses to these common viruses, we expect their armed and ready pool of antiviral immune cells to attack the tumor. This novel approach to cancer immunotherapy has the potential to be extremely potent, specific, and applicable to metastatic breast cancer, and other cancers.