Fall 2012

An Improved Strategy for Targeting Immune Attack in Cancer

Grace Kroner

Washington University in St Louis

WUURD, the Washington University Undergraduate Research Digest, is published by the Office of Undergraduate Research once a semester each academic year. Applications for submission and Statement of Editorial Policy may be found online.

Follow this and additional works at: http://openscholarship.wustl.edu/vol8_iss1

Recommended Citation
http://openscholarship.wustl.edu/vol8_iss1/78

This publication is brought to you for free and open access by the Office of Undergraduate Research through Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu
Cancer immunotherapy is a growing area of research interest. Currently, immune system cells are removed from a patient’s body and T cells are infected with a viral vector bearing a T cell receptor (TCR). Those T cells are then multiplied before being restored to the immune-depleted patient. Due to the culture step of this method, it is expensive. A new method could involve generating and injecting a retroviral construct which encodes the TCR of interest directly into a patient’s lymph nodes. From there, the virus will infect T cells, causing them to produce the desired TCR. Upon activation, the T cells will amplify according to a normal immune response. This method would enable a generalized virus to work with a variety of patients and will be less expensive. Work on analyzing the virus and virus infectivity in vitro shows that the virus successfully causes T cells to produce the TCR of interest. Further work in the RIP-OVA mouse system will show if the virus is capable of infecting in vivo.