



## Wilmot Cancer Center Scientist gets \$1.5M to Advance Lymphoma Research (图)

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May 23, 2007, A James P. Wilmot Cancer Center scientist recently received two research grants, totaling more than \$1.5 million, for separate, divergent studies of new therapies for follicular and mantle cell lymphomas.

In the first Lymphoma Research Foundation-funded project, Steven Bernstein, M.D., co-director of Wilmot's Lymphoma Biology Program at the University of Rochester Medical Center, will investigate whether rituximab, an antibody treatment for follicular lymphoma, causes the body's immune response to fight the disease. Rituximab, also known as Rituxan, is effective in treating the disease, but how it actually works remains unclear to scientists and oncologists.

Bernstein will study the effects of rituximab on tumor-fighting T-cells to see if this new therapy is pushing the body to fight disease on its own. Follicular lymphoma is a slow-developing but often fatal disease. New treatments, including rituximab therapy, are offering new hope for patients with follicular lymphoma.

Bernstein's team, which includes immunologists Shannon Hilchey, Ph.D., Tim Mosmann, Ph.D., and Alexandra Livingston, Ph.D., will examine whether rituximab therapy generates an immune response specifically targeting the lymphoma cells.

The study follows Bernstein and Hilchey's findings, published in the Journal of Immunology, that normal tumor-fighting T-cells found in people with follicular lymphoma are often suppressed by a unique population of cells known as regulatory T-cells. This makes it difficult for rituximab to stimulate the patient's immune system to fight the lymphoma.

If scientists see an immune response during this clinical study, it could improve doctors' understanding of rituximab's mechanism and possibly change treatment regimens for people with follicular lymphoma. These results may also apply to similar therapies of other cancers, leading to novel treatment strategies for cancer in general.

The second grant supports research into the use of a synthesized plant-derivative to force cellular changes that may destroy mantle cell lymphoma, an incurable cancer. The compounds, called triterpenoids, are anti-inflammatory agents known to have anti-tumor activity.

In a previous study published in Cancer Research, Bernstein and colleagues demonstrated that triterpenoids cause cellular destruction in large cell lymphomas. Indeed, such agents break into cells' energy source, the mitochondria, creating a chain of events that cause cellular death. The team includes Paul Brookes, Ph.D., assistant professor of Anesthesiology and of Pharmacology and Physiology, and Richard Phillips, Ph.D., professor of Environmental Medicine, and of Microbiology & Immunology, Oncology and Pediatrics, co-investigators on the Lymphoma Research Foundation grant.

The scientists will lead pre-clinical studies to determine how to use the compounds to improve treatment of mantle cell lymphoma, either alone as a separate therapy, or in combination with other common treatments.

Mantle cell lymphoma affects about 3,500 people each year in the United States. It's most commonly diagnosed in adults in their mid-60s.

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