

## PROJECT FACT SHEET

### Thy-1—a Possible Key to Our Immune System

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Our immune system protects our bodies by fighting off disease, yet millions of Canadians suffer from conditions brought on by the immune system — our army turns inwards and attacks normal tissues. These conditions are called “autoimmune” diseases, and they include Crohn’s disease, multiple sclerosis, diabetes, lupus, and rheumatoid arthritis. Medical researchers are always looking for new ways to protect us from diseases caused by the immune system, and create “immunotherapies” that make use of the body’s natural defense system to strike back at diseases like cancer.

A significant part of our immune system’s arsenal are T-cells, which are a type of white cell. Thy-1 is a protein that can cause T-cells to act, promoting both healing and harm. While scientists recognize this phenomenon, it is not really understood. To learn more about the impact of Thy-1 on the function of T-cells, David Hoskin has recently completed a study with the help of the Nova Scotia Health Research Foundation and the Natural Sciences and Engineering Research Council.

Dr. Hoskin, a professor in the Departments of Pathology and Microbiology & Immunology, Dalhousie University, mapped the way that Thy-1 “signals” T-cells to perform a variety of functions, information that was previously not known and takes us further down the path of understanding this elusive process.

“Although we are in an exploratory phase,” says Dr. Hoskin, “this research could lead to changes in the treatment of certain blood disorders, autoimmune diseases, and create new therapies that make use of the body’s immune system. We are laying the groundwork for the innovations of the future — innovations that will cure Nova Scotians.”

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