

## Discovery aids battle against disease

Saying they have found "the holy grail of immunology", researchers at the Ontario Cancer Institute have announced the co-discovery of a key mechanism in organizing the body's defences against disease.

Eight researchers, led by biochemist Tak Mak and postdoctoral fellow Yusuke Yanagi, have identified and cloned a gene which produces a "receptor" protein. This protein helps the body's T-cell immunological system to distinguish body cells from alien cells. A similar protein gene has been produced from mice by researchers at Stanford University in California.

### Already used

While Mark Minden, a senior cancer institute scientist, said that he had already used the discovery as a tool to differentiate between types of leukemia and lymph cell cancers, the Toronto researchers were loath to suggest immediate applications to their work.

What they and other scientists who have reviewed their findings believe is that the discovery will lift the veil on the previously hidden workings of the T-cell immunological system (it is called T-cell because the cells are produced by the thymus gland). It is basic research toward understanding how immunologically related diseases evade this defence system.

These diseases include Acquired Immune Deficiency Syndrome (AIDS), leukemia, allergies and rheumatoid arthritis. It may also help explain how transplants are rejected and why the body's defence against cancer often fails.

### T-cell mystery

Scientists have been puzzled for at least 20 years by the operation of the T-cells. Unlike the better understood B-cells, they do not produce antibodies to fight disease. Instead, somehow some of the cells become "killer cells", which directly attack foreign cells.

Furthermore, other cells in the T-cell system appear necessary to activate the B-cell system. Both systems are needed to protect the body against infection.

Researchers also know that T-cell malfunctions are linked to auto-immune diseases. These are diseases — such as rheumatoid arthritis, multiple sclerosis and juvenile diabetes — which occur when the immune system mistakenly begins attacking parts of its own body.

## Radio station reflects ever-changing ethnic mosaic

As it approaches its eighteenth year on the air, Toronto's Radio CHIN, broadcasting in 30 languages, reflects owner Johnny Lombardi's dedication to the concept of multiculturalism.

The largest multilingual radio station in Canada and one of the most extensive in the world CHIN is steadily adding languages and programs to accommodate new and growing ethnic communities in the Metropolitan Toronto region.

Mr. Lombardi, a first-generation Canadian, said he was deeply influenced by the experiences of his parents who came to Canada from Italy, but never became totally comfortable speaking English.

"My father was just an ordinary construction worker who scratched for everything he had and didn't speak the language," says Mr. Lombardi. "He was like

all the other immigrants who just want opportunities for their families and for the future."

The most outstanding feature about Toronto today is that it is an immigrant city, he believes. "It's no longer Tory Toronto or Anglo Toronto. It's a multicultural Toronto. We're all different and we should celebrate those differences rather than fight over them."

CHIN Radio, however, is not building its future only on immigrants who have just landed. "We're looking at the young people, the children of the immigrants who speak and do business in English but feel very comfortable when they hear another language being spoken or when they hear an accent, who are now totally Canadian but very proud of their heritage. That's our market."

### Air time divided

The station has attempted to divide air time according to the size of the various ethnic communities in the listening region. Italian-language programming has the largest potential audience at 426 000 while the Finnish community of 12 000 is one of the smallest.

The station programs in 30 other languages, including English for groups that speak it but are from different cultures, such as the Jewish and Caribbean communities.



Johnny Lombardi's CHIN radio broadcasts programs in more than 30 languages.

Program hosts are drawn from the respective communities, in most cases making their debut in radio with CHIN.

CHIN FM, one of the original owners of the FM antenna, is more diversified, broadcasting news, musical, religious and talk shows around the clock. News and sports are broadcast each half hour in the same language as the programming.

CHIN AM, which goes off the air at 7:30 p.m. so that its signal will not interfere with that of a US station, is a prime beneficiary of a bilateral agreement on radio broadcasting signed by Canada and the United States in January.

The agreement gives Canada access to new or revised AM frequency assignments and CHIN AM is expected to start 24-hour broadcasting by late September.

The AM station, whose signal has been beamed from nearby Mississauga, Ontario for the past two decades, will move to the Toronto Islands at a cost of between \$1.5 million and \$2.5 million. The additional air time is expected to result in a major expansion of the station's Chinese programming.

As he approaches his eighteenth year of broadcasting, Johnny Lombardi said recently: "We celebrate our differences at Radio CHIN...and we interpret our beloved country in over 30 languages to all of those people who have left their homeland to make Canada 'home'...."