Alzheimer's Research
Dr. Judes Poirer of McGill University has developed a blood test to determine a person's chances of developing Alzheimer's disease. The test, available in Canada since May 1994, identifies people carrying the apolipoprotein E4 gene, which is linked to Alzheimer's disease.

Molecular Genetics
Dr. Phillippe Gros, director of a biochemistry laboratory at McGill University, has been instrumental in two breakthrough discoveries in the area of molecular genetics. The most recent is the cloning of a gene, dubbed *Nramp*, in which mutations cause susceptibility to several infectious diseases such as tuberculosis and leprosy. The second is the cloning of the multidrug resistance *mdr* gene family, which controls resistance in the cells to anticancer drugs commonly used in chemotherapy.

Brain-cell Research
Dr. Samuel Weiss, a University of Calgary medical researcher, has received more than $3 million in funding for his project on brain-cell regeneration. His breakthrough research includes the discovery of stem cells in the mouse brain that produce new neurons like those found in the brains of adult mammals. This discovery, being the first demonstration of neural regeneration in the brain, has opened up the possibility for the repair of human brain cells damaged by strokes or head injuries.

Discovery of Diabetes Genes
A University of Calgary research team, led by Dr. Leigh Field of the Canadian Genetic Diseases Network, has discovered two new genes that play an important role in the development of juvenile diabetes. This ongoing research could lead to the development of diagnostic techniques to help identify individuals at high risk of developing this disease. Ultimately, this research could be the key to the prevention of the onset of the disease, which affects one in 300 children by the age of 20.

Male Sterility Research
Researchers at the Maisonneuve-Rosemont Hospital of the Université de Montréal have found a cause of male infertility that paves the way for a possible treatment for thousands of sterile men. Led by biochemist Gilles Bleau, the MRC-funded human reproduction research team has determined that, if sperm lacks a protein known as P34H, it cannot bind to the egg, which is a prerequisite for fertilization.

Identification of Spinal Muscular Atrophy Genes
A research team at the Children's Hospital of Eastern Ontario (CHEO) and the University of Ottawa has identified two separate genes associated with spinal muscular atrophy (SMA), the most common genetic cause of death in Canadian infants. The CHEO team was able to clone a gene that is usually deleted in SMA cases. This gene contains a protein that could help to halt not only the death of motor neurons in SMA patients, but the killing of brain cells in diseases such as Alzheimer's and Parkinson's.