Canadian Medical Hall of Fame
Temple de la renommée
médicale canadienne

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Ronald Worton, PhD

Described as a “role model of one who has achieved success without either aggression or self-promotion” and “who brings to every interaction kindness, selflessness, consideration and empathy,” Dr. Worton stands out as both a scholar and a gentleman. Through a novel and ground breaking approach at a time when disease-gene discovery was in its infancy, Dr. Worton and his team identified the dystrophin gene which is mutated in Duchenne muscular dystrophy. This was the first gene to be identified by “positional cloning” without prior knowledge of the altered protein and provided proof-of-principle for the human genome project.

His work enabled definitive diagnosis and prognosis, a clear path to potential therapy and prevention through genetic counselling and prenatal diagnosis, and was pivotal in enabling identification of other genes responsible for other forms of muscular dystrophy.

Dr. Worton earned his Bachelor and Master of Science degrees, both in physics, from the University of Manitoba in 1964 and 1965. He then moved to the University of Toronto where he obtained his PhD in Medical Biophysics in 1969 under the guidance of Drs. James Till and Ernest McCulloch.

He developed his interest in genetics during his postdoctoral fellowship at Yale University and then joined the Department of Genetics at The Hospital for Sick Children (SickKids) in Toronto as Director of the Cytogenetics Laboratory in 1971.

In 1985 he began a ten year term as Geneticist-in-Chief at the hospital, during which time his genetics department led the world with the discovery of genes responsible for muscular dystrophy (Worton and Ray), cystic fibrosis (Tsui), Wilson’s disease (Cox), Tay-Sachs disease (Gravel) and Fanconi anemia (Buchwald).

In 1996 Dr. Worton moved to Ottawa where he led the development of the Ottawa Hospital Research Institute by bringing together a number of smaller institutes under one administrative structure, coupled with extensive recruitment of basic scientists and clinical investigators. Under his tenure the Institute grew to be one of the top health research institutes in Canada and remains so today.

Dr. Worton’s national and international leadership roles include four years on the Board of the Human Genome Organization (HUGO), 12 years as Associate Director of the Canadian Genetic Diseases Network, six years as Head of the Canadian Genome Analysis and Technology Program and four years as Founding Scientific Director of Canada’s Stem Cell Network. His honours and awards include a Gairdner Foundation International Award, election as a Fellow of the Royal Society of Canada, an honorary Fellow of the Royal College of Physicians and Surgeons of Canada and an Officer of the Order of Canada.