



Tak Wah Mak, PhD

Dr. Tak Wah Mak's brilliant career as a leading world-renowned Canadian scientist has had a major impact on public health around the world. His legacy includes a series of critical discoveries in fields as diverse as immunology, signal transduction and cancer biology. In 1984, Dr. Mak solved one of the toughest problems in immunology – the structure of the T cell receptor for antigens. Until then, the nature of its antigen receptor had been unknown. In fact, the principal idea was that the T cell receptor was some unusual form of antibody.

Dr. Mak, through beautiful molecular approaches, discovered that T cells actually use an entirely different set of genes for antigen recognition. He showed that the T cell receptor for antigen was, in many ways, analogous in design to antibodies, yet totally different in genetic origin and sequence. It is impossible to understate the importance and impact of this seminal discovery on all fields of immunology.

The next twenty-five years saw Dr. Mak blaze a remarkable trail in the molecular biology of the immune system and in cancer. Unraveling one critical component after another, he repeatedly established his findings by producing genetically-altered mice typically deficient in a relevant gene for immune or cancer function. The mice, in addition to the biological discoveries themselves, represent another legacy of the Mak lab to international science.

As Director of The Campbell Family for Breast Cancer Research Institute since 2004, Dr. Mak has earned international recognition by identifying critical molecular pathways that are expressed in cancer cells which begins to explain how these cells escape normal behaviour in terms of the control of growth and death. He has established one of the finest academic drug discovery engines, having identified two novel drug targets.

Dr. Mak holds honorary doctoral degrees from numerous universities in North America, Asia and Europe. He is an Officer of the Order of Canada (2000), a recipient of the Gairdner International Award for Science (1989), and a Fellow of the Royal Society of Canada (1986). He has received many highly distinguished prizes including the Novartis Prize in Immunology (1998), the Paul Ehrlich Prize (2004) and the Sloan Award (1996).