BIOENGINEERING & BIOMEDICAL ENGINEERING RESEARCH SEMINAR

PRODUCTION OF VIRAL VECTORS AT THE NATIONAL RESEARCH COUNCIL OF CANADA

Renald Gilbert - National Research Council Canada

Viruses can be deleted of essential genes to inhibit their replication without preventing their ability to enter cells and to deliver genetic materials. Such attenuated viruses (referred to as viral vectors), are produced using cultures of mammalian cells. They can be further modified by inserting within their genome a gene for a protein of interest. Consequently, they can be used to deliver recombinant proteins in the body for vaccination or to treat genetic deficiencies. The most popular viral vectors are derived from two non-enveloped viruses (adenovirus and adeno-associated virus [AAV]) and one enveloped and integrating virus (lentivirus). For pre-clinical and clinical studies, large amounts of good quality preparations of viral vectors are needed. For this reason, efficient producer cell lines have been constructed. To facilitate the scale-up and to comply with safety requirements, producer cell lines have been adapted to suspension culture using media devoid of animal derived components. During my presentation, I will summarise the work performed over the course of 20 years at the National Research Council of Canada to develop cell lines and process to optimize the production of viral vectors derived from adenovirus, AAV and lentivirus.

December 9, 2016
MD 267
1:00PM

McGill | Department of Bioengineering

BME