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GENOMICS AND GENE THERAPY VECTORS

BRI's **Genomics and Gene Therapy Vectors** Group designs and develops expression vectors for the production of high added value products such as viruses (vaccines, vectors for gene therapy) and recombinant proteins and monoclonal antibodies for research and commercial applications.

"We are interested in every aspect of vector development, including the design of new adenoviruses for specific applications, the construction of improved cell lines for vector production, and the generation of new therapeutic genes."

Our Research Activities

- Development of versatile and commercially viable expression systems for functional studies and therapeutic applications
- Development of viral vectors for protein production, functional characterization and gene therapy
- Development of viral libraries for functional studies in mammalian cells
- Investigations into the mechanisms of apoptosis induction and prevention
- Genetic determinants of the host response to *Candida albicans* using genomics approaches

Our Services

- Generation of stable cell lines for functional studies (cell-based assays)
- Generation of stable CHO cell lines expressing recombinant proteins (> 100 mg/L) in suspension serum-free medium utilizing proprietary expression vectors
- Construction and production of viral vectors
  - First generation adenovirus
  - Helper dependent adenovirus
  - Retroviral vectors
  - Lentiviral vectors
- *In vivo* functional studies with viral vectors
- Flow cytometry and microscopy cell sorting and analysis

Research Examples

- Development of the adenovirus as a vehicle for the transfer of genetic material for gene therapy and functional studies. This includes the construction of adenoviral libraries using positive selection, the production of a cell line (BMAdE1) enabling the growth of recombinant adenovirus devoid of replication-competent virus, the engineering of adenoviral vectors with altered tropisms and the design of adenoviral vectors expressing suicide gene for cancer therapy
- Development of a proprietary gene switch based on the p-cym operon of *Pseudomonas putida*. This gene switch provides a very attractive system to drive gene expression in mammalian cells since it can be used both in application requiring tight regulation and in those requiring high-level expression
- Development of efficient vectors for the generation of stable cell lines for functional studies (i.e. apoptosis) as well as for the production of large quantities of therapeutic proteins in culture of mammalian cells using bioreactors.
- Generation of packaging cell lines for large-scale production in serum-free medium of lentiviral and retroviral vectors

Our Business Approach

Through service contracts and the licensing of our technologies, BRI's dynamic, flexible team supplies customized solutions for our partners' needs. In addition, BRI provides access to a number of advanced technologies and a wide variety of experts who regularly publish in leading scientific journals.

Contact Us for Full Details

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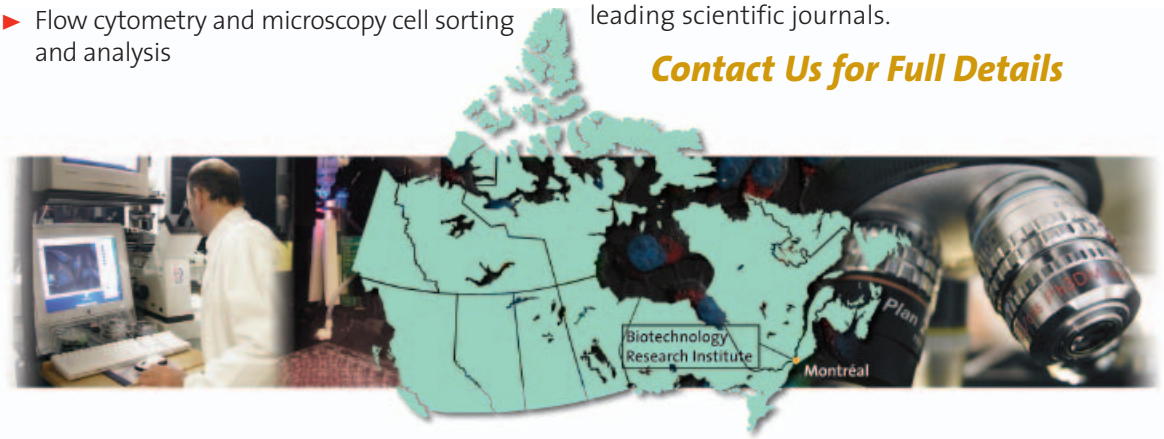

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