


A hand in a blue nitrile glove holds a clear petri dish. Overlaid on the scene is a 3D molecular model with blue and grey spheres connected by grey rods. The background is a blurred laboratory setting with petri dishes.

# QUÉBEC'S LIFE SCIENCES INDUSTRY

## THE RIGHT FIT

**IQ** Investissement  
Québec

GROWING JUST GOT EASIER



“The Merck Lumira Biosciences Fund, a collaborative approach by the government, research community and industry, builds on the strong foundation of innovation in Québec.”

**Cyril Schiever,**  
*President and Managing Director  
of Merck in Canada*

## Open Innovation in Québec

Pharmaceutical companies around the globe are now using a new business model based on partnerships to fuel their pipeline with innovative products. Thanks to Québec's expertise and the excellence of its scientific research cluster, numerous partnerships involving pharmaceutical giants have been forged, in some cases with the financial participation of the Québec government.

## Top Ten Success Stories in Québec

### WIN-WIN PARTNERSHIPS:

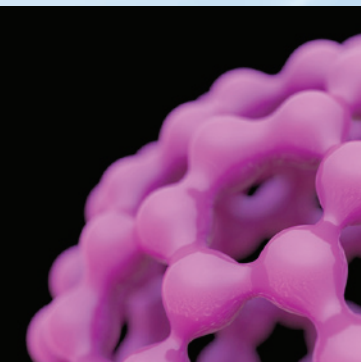
1. **Pfizer, Sanofi, Caprion Proteomics, Oncozyme Pharma and Telus Health** invested with the **Québec government** to create the Personalized Medicine Partnership for Cancer (PMPC), which works to develop and validate new biomarkers and to encourage their use in medical practice.
2. **Bristol-Myers Squibb** signed a collaborative research and licence agreement with the Institute for Research in Immunology and Cancer (**IRIC**) at the **Université de Montréal** to support two new projects in oncology.
3. **AstraZeneca** and **Pfizer** teamed up with the **Québec government** to create the **NEOMED Institute**, a life sciences research facility in Montréal that acts as a bridge between the private sector and academic research, bringing together the various players in the R&D chain.
4. The **Québec government, AstraZeneca, Pfizer Canada, Merck Canada, Boehringer Ingelheim, Eli Lilly, GlaxoSmithKline** and **Novartis** joined forces to stimulate pharmaceutical research and accelerate drug discovery by creating the **Québec Consortium for Drug Discovery (CQDM)**.
5. **Merck Canada** invested in research at three university-affiliated and hospital-based research centres—the **Research Institute of the McGill University Health Centre**, the **CHUM Research Centre** and the **Montréal Heart Institute Research Centre**—as part of its commitment to R&D in Québec.



## GLOBAL-REACHING COMMERCIAL SUCCESSES:

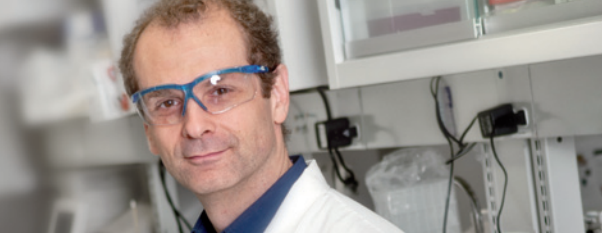
6. **3TC/Epivir®**: The first effective treatment for HIV, this triple therapy was discovered by Dr. Bernard Belleau at McGill University and Dr. Paul Nguyen-Ba at the Montréal-based IAF BioChem International laboratories in 1988. The drug was later licensed to British pharmaceutical company Glaxo by Biochem Pharma.
7. **SINGULAIR®**: Montelukast sodium, now called SINGULAIR®, was discovered by Merck Canada for the treatment of chronic asthma. The drug, representing one of Merck's most significant R&D contributions, was developed in Montréal, thus the "Mont" in its original name.
8. **FluLaval®**: This injectable influenza vaccine for active immunization against influenza was developed in Québec at ID Biomedical, acquired by GlaxoSmithKline in 2005.
9. **BST-CarGel**: This product, developed by Montréal-based BioSyntech Technologies, addresses unmet needs in the knee cartilage repair market. BioSyntech was acquired by Piramal Healthcare in 2010.
10. **EGRIFTA®**: This injectable treatment, known as Tesamorelin, was developed by Montréal company Theratechnologies to reduce excess abdominal fat in HIV-infected patients with lipodystrophy. It will be commercialized as EGRIFTA® in the United States exclusively by EMD Serono under a collaboration and licensing agreement.

## A Complete Cluster: From Bench to Market



Québec is a major pharmaceutical hub in Canada, with over 80 multinational corporations and the Canadian headquarters of giants like Pfizer, Sanofi, Valeant Pharmaceuticals and Merck.

The cluster encompasses all the main segments of the industry: basic research, manufacturing, biotechnology, contract research and medical technology. Nearly half of the companies in the life sciences sector in Canada are concentrated in Québec, spawning opportunities for partnership and collaboration.



Dr. Eustache Paramithiotis  
(Caprion Proteomics Inc.)

# Talented and Qualified Workforce

Québec has earned a name for the excellence of its scientific workforce. It has developed a deep pool of highly skilled and experienced workers as result of the concentration of high-tech jobs.

It boasts a **critical mass** of more than **10,000** researchers active at public biomedical research centres and more than **2,000** workers with expertise in basic research, organic synthesis, drug administration and rational drug design. Québec is also home to some 300 university-affiliated research centres, public research centres and research organizations.

## Recognized Fields of Excellence

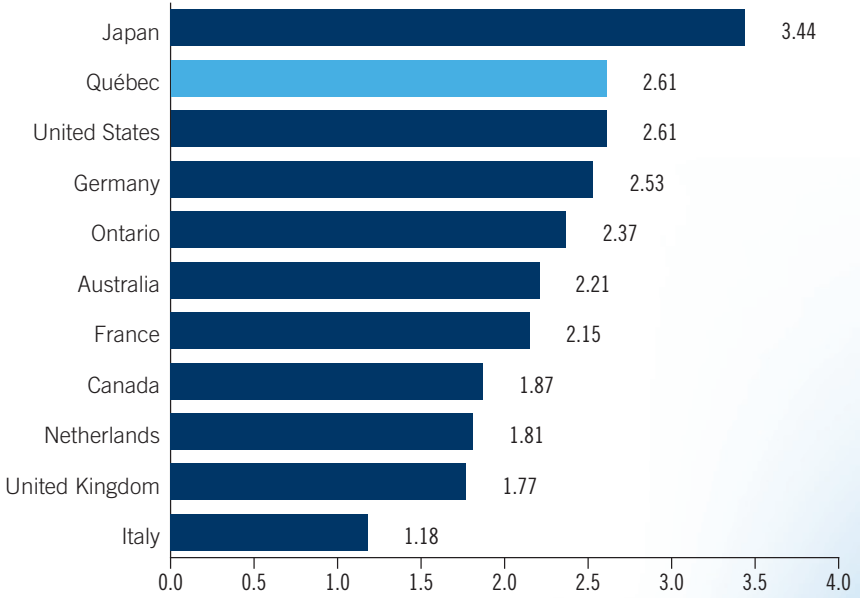
Québec is home to internationally renowned research centres of excellence and offers an exceptional environment for the development of public and private health research. The province is one of the 10 largest health science clusters in North America, with world-class research infrastructures and leading expertise in fields such as:

- **Oncology:** More than 10 world-class cancer research centres in Québec are readily available as well as cancer research networks and tissue banks in ovarian, breast, skin cancers and leukemia.
- **Neuroscience:** Québec is well recognized for its expertise in the central nervous system, receiving 36% of the Canadian research funds allocated to aging, neurosciences and mental health.
- **Cardiology:** Québec is an important international scientific research hub in cardiology. In 2010-2011, Québec received 27% of the Canadian research funds allocated to research in cardiology. In addition, the Montréal Heart Institute (MHI) was selected in 2012 as Roche's global research hub in cardiometabolic diseases.
- **Genetics, genomics and proteomics:** Québec ranks among the leaders in genomics. Many corporations, research centres, research teams and state-of-the-art infrastructures are well renowned for research activities in functional genomics, pharmacogenomics, RNomics, personalized medicine and bioinformatics.

## INNOVATING IN QUÉBEC

According to the Economic and Financial Profile of Québec 2012, Québec allocated 2.61% of its GDP to research and development, the highest level of any Canadian province. It also exceeds the average rate of the OECD, G8 and European Union countries.

Gross Expenditure on R&D (% of GDP)



Source: *Competitive Alternatives, KPMG's Guide to International Business Location Costs, 2012 Edition*

## TAX CREDITS FOR FOREIGN RESEARCHERS

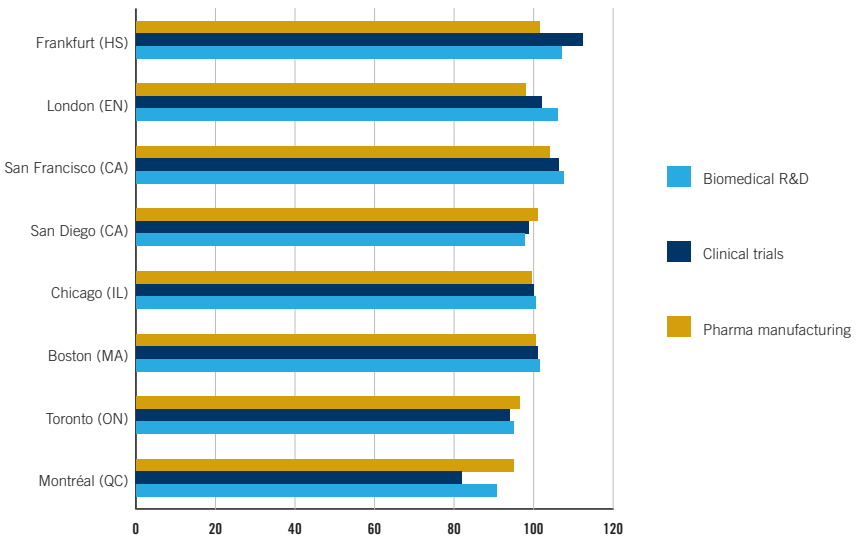
To enable innovative companies operating in Québec to attract the world's best researchers, the province offers generous personal income tax reductions, with a 100% tax credit over two years and a 75% credit, on average, over five years.



# Operating Costs Among the Lowest of the G8

Given its affordable labour, capital and operating costs, Québec is one of the most attractive locations in the world for biopharmaceutical development, drug manufacturing and clinical trials.

## AVERAGE ANNUAL OPERATING COSTS



Source: KPMG’s Guide to International Business Location Costs, 2012 Edition (Operating costs include labour, rent, transportation, electricity and gas.)

Index: United States = 100

## HOW MUCH DOES A \$1 R&D EXPENDITURE REALLY COST?

In Québec, we value research. We offer a number of generous tax credits to encourage companies to stimulate research activities and encourage innovation.

Thanks to the different tax incentives available, the net cost of a \$1 expenditure in an eligible research project in Québec can be as low as \$0.36.

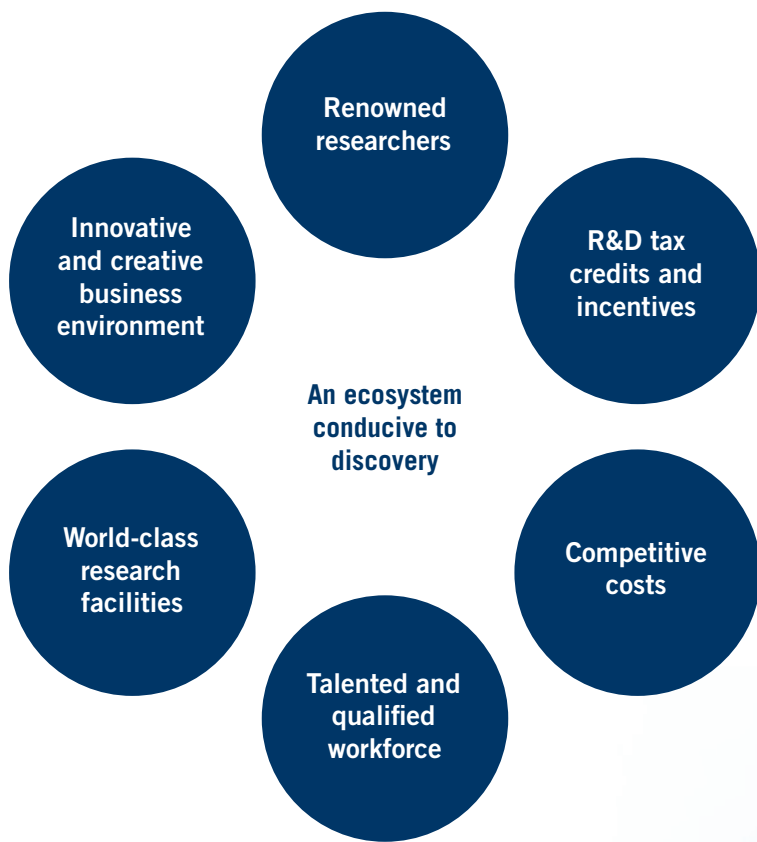
### Net cost of a \$100,000 R&D expenditure by a biopharmaceutical company for salaries

#### SAVINGS OF UP TO 64%



Source: Taxation in Québec, 2012, Raymond Chabot Grant Thornton

➤ Québec grants other tax credits (up to 35%) for pre-competitive collaborative research projects.



## QUÉBEC: THE CANADIAN LEADER IN VENTURE CAPITAL INVESTMENT

Québec was the Canadian leader in venture capital (VC) in 2012, receiving 50% of all venture capital raised and having 58% of all VC-backed companies in Canada.

Major private funds, government funds and the large pharmaceutical companies have joined forces to invest in funds intended for innovative enterprises:

- **Lumira Capital II Fund** (Merck, Lumira Capital and Teralys Capital), a \$100-million fund launched in Québec to benefit North American firms involved in late clinical stage development of medications, diagnostics and medical devices (2012).
- **Merck Lumira Biosciences Fund**, a \$50-million fund investing solely in Québec biotechnology firms (2012).
- **TVM Life Science Ventures VII** (Eli Lilly, Business Development Bank of Canada, Fonds d'action CSN, Advantus Capital Management, Teralys and TVM Capital), a \$150-million fund investing primarily in early-stage drug development and opportunities for life science companies (2012).
- **GSK Canada Life Sciences Innovation Fund**, a \$50-million innovation fund investing in Canadian-based early-stage breakthrough research (2011).
- **AmorChem** (Merck, FIER Partenaires, Investissement Québec, FTQ Solidarity Fund), a \$40-million fund investing in promising life science projects from Québec-based universities and research centres (2011).
- **Teralys**, the largest fund of funds created by the Québec government, investing in technology-based companies, with \$1.3 billion in capital commitments and assets under management (2009).

## WE'RE HERE TO SUPPORT YOU THROUGHOUT YOUR PROJECT

Investissement Québec offers the combined services of a financing corporation and an economic development agency. Our team of experts can support you through all stages of your project in Québec. We can help you secure the necessary financing, locate an appropriate site, and find the partners and suppliers you need.

## FINANCIAL SOLUTIONS WITHIN YOUR GRASP

We offer a complete range of financial solutions to support the growth of businesses operating in Québec. These solutions include direct loans, equity financing (venture capital and growth capital), and the certification required for certain tax measures introduced to stimulate the life sciences sector.

## A NETWORK AT YOUR SERVICE

Investissement Québec is central to Québec's economic development and maintains preferred ties with numerous stakeholders in the public and private sectors. We can put you in touch with the right people and help you carry out your project in good time.

**TO FIND OUT MORE ABOUT HOW WE CAN SUPPORT YOU,  
CONTACT ONE OF OUR REPRESENTATIVES AROUND THE WORLD  
OR VISIT OUR WEBSITE.**

**INVESTQUEBEC.COM** 

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