
LIFE SCIENCES





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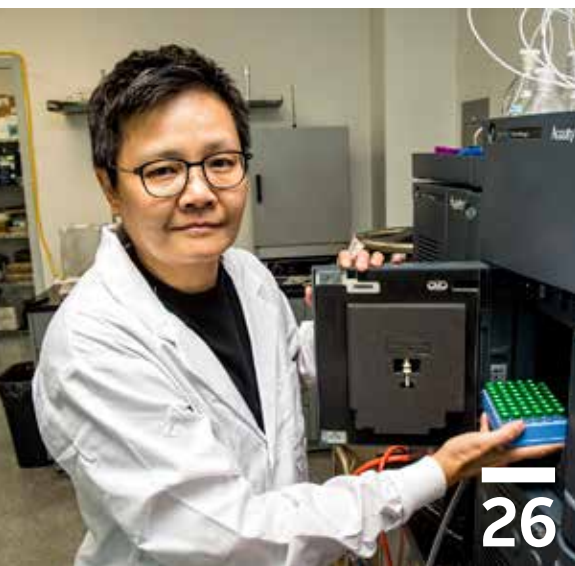
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Diversifying talent for a strong life sciences sector in BC

As BC's life sciences and biomanufacturing sector grows, so does its need for talent.

Finding the right research skills is a significant barrier to growth for many companies. That's why Michael Smith Health Research BC is creating opportunities for emerging researchers to apply their training outside of academia. By building bridges between post-secondary institutions and industry, we are enhancing BC's capacity for innovation.

Internships support small companies with big ideas

Health Research BC partners with national research organization Mitacs to give researchers experience at BC life sciences and biotechnology companies. The partnership co-funds internships that provide critical real-world experience while helping industry access the skills it needs to thrive. Already in 2025, more than 50 interns have been placed in over 30 companies across the province.

The program focuses on small and medium-sized businesses that wouldn't otherwise be able to afford to hire new researchers. Thanks to Health Research BC and Mitacs' support, companies only need to pay a quarter of the intern's salary for their term.

"This partnership lowers the financial barrier for BC's life sciences companies to host interns," says Muneerah Kassam, Director, Partnerships, Health Research BC. "Interns gain hands-on experience working at the forefront of innovation — applying their skills in environments that accelerate both their careers and the companies' growth."

CereCura Nanotherapeutics, which focuses on finding new treatments for brain diseases, is one company participating in the program.

"Startup companies in the life science sector, particularly in biotech, can be pre-revenue for ten years or more. This support goes a long way," says Nicholas Weiling, Co-Founder & Chief Scientific Officer, CereCura. "The partnership has been instrumental



| Layla Bird

in growing the company while also providing a valuable opportunity for the intern."

New fellowship focuses on innovation

Health Research BC is also investing in new solutions for today's health challenges through its partnership with the University of British Columbia School of Biomedical Engineering (SMBE) to establish the Michael Smith Health Research BC and Conconi Family Foundation's BioDevice Innovation Fellowship Program.

The inaugural fellow will start working this fall at the soon-to-open BioDevice Foundry housed at the SMBE. The facility provides state-of-the-art infrastructure to design, fabricate and test biodevices for a range of biomedical applications.

Fellows bring a strong technological focus on biomedical applications with biodevices with the aim to measure, model and manufacture biosystems. They leverage the foundry's infrastructure along with the hospital and industrial organizations in the Vancouver area to work on research topics at the intersection of biodevice engineering and

healthcare applications. Five fellows will be placed in the next five years, with the next round of applications happening in spring 2026.

"This fellowship enables the next generation of researchers to advance cutting-edge biodevice innovations, while at the same time strengthening BC's capacity for both the biotech and medtech sectors," Muneerah says.

Growing talent for a thriving life sciences ecosystem

Research career pathways are changing, and Health Research BC is working to advance the skills and opportunities researchers need to succeed in the life sciences sector. By strengthening academia-to-industry connections, Health Research BC is developing new and innovative ways to build health research talent for BC's future.



Michael Smith
**Health
Research BC**

CANADA'S LIFE SCIENCES SECTOR - A STRATEGIC DRIVER OF ECONOMIC STRENGTH, NATIONAL SECURITY AND FRONTLINE RESILIENCE



In the wake of increasing global trade disruptions, Canada's life sciences sector is critical to our national security and the sovereignty of our health-care sector in our efforts to build a one Canadian economy.

The world is in the midst of rapid transformations marked by profound geopolitical shifts. This era of growing protectionism and defensive trade economics is forcing us to reassess our supply chain networks and trusted alliances around the world. It further introduces distinct pressures that demand that all levels of government act with agility, speed and commitment to attain our national goals.

It is in this context that life sciences is fast emerging as a frontier technology sector with the capacity to fortify our nation's prosperity and health security, as we assume an ever greater leadership role on the world stage. Over the past five years, the Government of Canada has taken decisive steps to re-build and continue to grow Canada's life sciences ecosystem. Since 2020, Canada has committed upwards of \$2.5 billion to build-up the domestic industrial base and grow technological capabilities across our country. These efforts have unlocked more than \$2.8 billion in investment from the private sector and provincial counterparts. In British Columbia, public-private investments in entities such as STEMCELL Technologies, AbCellera, Aspect Biosystems

and TRIUMF are helping to build world-leading infrastructure to advance domestic biomanufacturing, clinical trials and research capabilities, supporting the development of novel medicines, medical isotopes, and first in class treatments, such as 3D bio-printing for implantable tissues, as well as, cell and gene and regenerative medicines, all of which is capturing the attention of the world.

At the same time, we have invested more than \$500 million to establish five research hubs led by Canada's leading universities to bolster institutional research, commercialization and talent development efforts in collaboration with partners across the ecosystem. These efforts build on the strengths of our provinces. British Columbia, in particular, is a hallmark of Canadian innovation and a reflection of the strength of its life sciences ecosystem. It was here that the world's first monoclonal antibody treatment for COVID-19 was developed. It was here that the groundbreaking science behind lipid nanoparticles was developed, saving millions of lives around the world by delivering mRNA based vaccines and therapeutics, and it is here that we continue to lead the world in specializations such as stem cells, radiopharmaceuticals, and regenerative medicine.

Moving Forward with Purpose: From Reliance to Resilience

Our collective efforts are helping reverse a near 40-year decline in the sector, attracting investments from major global companies, and supporting the growth of our emerging Canadian anchor firms, paving the way for our future success. Today, Canada has a diverse array of vaccine technologies and biomanufacturing platforms to strengthen domestic pandemic response and life sciences innovations. From mRNA treatments, monoclonal antibodies, antivirals, and digital medical technologies, Canadian scientists, talent and companies are leading the development of our global excellence. Our workforce is the most educated in the G7, our talent is unparalleled, and our

universities are world-class.

As Minister, I am cognizant of the pressures affecting the sector and I am prepared to work with partners to strengthen our national security, as well as to grow our industrial base. Canada considers the health and security of its population as its top-most priority. We understand the need to assess, anticipate, and build-up capabilities at the local, national and regional levels. In the face of biosecurity threats, continued collaboration with key international partners is critical to our security. While the U.S. will remain a key partner to advance mutual objectives over our shared continental defence, we remain committed to diversifying our markets and production networks with key allies all over the world. Over the past year, we have made significant transatlantic partnerships with the United Kingdom and European Union to enhance pandemic preparedness, health emergency readiness, and support innovative companies in life sciences – and we will continue to engage globally to fortify our resilience.

We are a country with untapped potential, and we are a pillar of stability for the world in a turbulent time – we have a unique window of opportunity to mark Canada's life sciences sector as an underpin to our economy, our security, and our health. Together, we can build the technologies of tomorrow, grow anchor firms with billion dollar potential, lead with science and ensure that the next generation of medicines are made right here at home. Canada must continue to serve as a beacon of progress to the world, as a trusted and reliable partner and as a stable and democratic country with an economy that is open to companies, scientists, and the top minds of the world.

Let us seize the moment together under one Canadian economy and common determination for our collective future. ◀

The Honourable Mélanie Joly, Minister of Industry and Minister responsible for Canada Economic Development for Quebec Regions

B.C.'S LIFE SCIENCES SECTOR: GLOBAL IMPACT, LOCAL GROWTH, AND STRATEGIC INVESTMENT



This is an important time for British Columbians, Canadians, and the more than 2,000 life sciences companies employing close to 20,000 people who call this province their home. B.C.'s prioritization and support for the leaders, businesses, researchers, academics and others in the life sciences sector remains strong. Despite significant political and economic uncertainty, we are advancing the sector together, and this is reflected in the resilience, growth and momentum we are seeing across our highly collaborative ecosystem.

The life sciences sector in this province is incredible, and the work B.C. companies are pursuing changes lives here at home and globally. For example, the discoveries made in British Columbia in the fight against COVID-19 had a lifesaving, global impact and put our local life sciences sector on the world's radar. From the discovery of the lipid nano particle delivery system that enables mRNA to be delivered into cells making the COVID vaccine possible, to the first FDA-approved COVID therapeutic using antibody technology, B.C. researchers and scientists are world leaders in finding and developing solutions.

Building from the award-winning B.C. Life Sciences and Bio-manufacturing Strategy, we have been purposefully promoting this world-leading ecosystem to global markets, investors, companies, researchers and workers. Together, we are creating new connections and building relationships and B2B connections with more jurisdictions around the world. From our attendance at BIO Boston in June where my predecessor met with many international life sciences and pharmaceutical companies, to our recent trade missions to Europe and Asia,

our government, with the support of the larger ecosystem, is making sure the world knows what B.C. has to offer.

Through our strategy, our government has committed \$737 million to many life sciences initiatives and leveraged over \$1.2 billion in federal funding and private investment to strengthen the B.C. sector.

One of this year's highlights will be the opening of a new eight-bed, clinical trials unit (CTU) at Providence Health Care's Mount St. Joseph Hospital in Vancouver. Announced in 2023, the Province invested \$4.2 million to create the CTU. Michael Smith Health Research BC, B.C.'s health research agency, contributed \$1.2 million to further strengthen the province's clinical trials environment, including \$600,000 to the CTU.

With this purpose-built CTU, the province will have the capacity to perform non-oncology Phase 1 clinical trials for medical devices and potential medicines, such as antibody treatments, gene therapies, and vaccines. The unit will serve as a cornerstone for innovation, growth, and excellence, while positioning B.C.'s life sciences ecosystem as a leader in non-oncology clinical research.

As British Columbia's Minister of Jobs and Economic Growth, I'm very proud of our life sciences and bio-manufacturing sector, and our government is committed to doing the work - to ensure B.C. is strong, and to continue leading our country. As Premier Eby has said, British Columbia is the engine of the new Canadian economy, and innovation is at the heart of this transformation positioning us as a global destination for talent and investment. ←

The Honourable Ravi Kahlon is B.C.'s Minister of Jobs and Economic Growth

CHARTING B.C.'S LIFE SCIENCES FUTURE: WHERE INNOVATION MEETS OPPORTUNITY



British Columbia is emerging as a global life sciences powerhouse, established as the fastest growing and Canada's third largest life sciences sector. Over the past 15 years, our biotech subsector alone has attracted over \$15 billion in deals and investments.

The world's first personalized CRISPR treatment was delivered this year using technology from Vancouver-based Acuitas Therapeutics. Companies like Aspect Biosystems and VoxCell BioInnovation are turning bioprinting into clinical reality. AI continues to revolutionize drug discovery and patient care, with AbCellera moving two assets into the clinic, and WELL Health reporting record revenues. A big milestone to note for Kardium in achieving FDA approval for its Globe® Pulsed Field System to treat atrial fibrillation.

Zymeworks, recognized as the 2025 Life Sciences BC (LSBC) Company of the Year, advanced multiple pipeline milestones through partnerships with Jazz Pharmaceuticals and BeOne Medicines Ltd. (formerly BeiGene, Ltd.). This included regulatory approvals for Zanidatamab in China, building from last year's FDA approval and is further proof of B.C.'s global impact.

We, at Life Sciences BC (LSBC), are honored to work alongside the passionate individuals driving this transformation every day. Our foundation was built by pioneers like Dr. Julia Levy, who passed in December 2024. As the first woman to hold a tenure-track position in UBC's Department of Microbiology and Immunology, co-founder and then President and CEO of QLT, she proved that academic research could translate into life-changing treatments—a legacy that continues to inspire our sector today.

What sets B.C. apart is an entrepreneurial drive, collaborative ecosystem, and a highly engaged government, creating an ecosystem where breakthrough discoveries translate into real-world impact.

Life Sciences BC, A Catalyst for Growth

LSBC continues to work as an agile team to understand sector needs, to

deliver purposeful and impactful events and programs, and as a trusted partner in government, research, and industry.

Our signature events include our Annual Awards Gala, Invest in BC, Career Connect Day and Access to Innovation. Invest in BC, now in its 10th year has evolved into a global platform where companies forge relationships that fuel growth. With advanced partnering systems, we enable meaningful cross-border collaboration.

Our programs address real industry needs. Through our Investor Readiness Program, Business Development course with Novateur Ventures, and Growth Catalyst Program supported by PacifiCan, we pair emerging companies with seasoned mentors, transfer knowledge, build relationships, attract investment, and help our companies scale. We help entrepreneurs navigate the rapidly evolving landscape while building the skills needed for long-term success.

On the international stage, we champion BC innovations at premier events like the JP Morgan Healthcare Investor Conference, BIO International Convention, International Healthcare Week in Hong Kong, and BIO Europe. We ensure our companies aren't just participants but leaders in the global dialogue shaping healthcare's future.

To sustain our trajectory as a global leader, we're also focusing on the fundamentals that will drive long-term success. We've identified talent acquisition and global competitiveness as key areas for sector enhancement. LSBC collaborates with our Talent Council of industry leaders to address essential issues like immigration policy.

LSBC supports the growth of our ecosystem through building talent, capital attraction, and fostering networks of collaboration, including with multiple levels of government.

The momentum is unmistakable, the future is bright, and we're charting its course from right here in British Columbia. ←

Wendy Hurlburt is President and CEO of Life Sciences BC.



DELIVERING A JOLT TO **MEDTECH MANUFACTURING**



Recent FDA
approval
spurs further
growth plans
for B.C.-based
heart-device
company
Kardium

BY NELSON BENNETT

British Columbia is not known for its manufacturing. Ontario and Quebec dominate Canada's industrial landscape, with most auto manufacturing concentrated in those two provinces.

Where B.C. does punch above its weight, however, is in high-tech manufacturing and, increasingly, in the medical-device sector.

A sub-sector of life sciences, medtech design and manufacturing has become an increasingly important anchor for B.C.'s high-tech engineering sector, thanks to companies like StarFish Medical on Vancouver Island.

"It's almost difficult to find a medical device innovation that has happened in B.C. that StarFish has not touched in one way, shape or form," says Wendy Hurlburt, president and CEO of Life Sciences BC.

The West Coast "is definitely punching above its weight," says Paul Geyer, chief investment officer for Nimbus Synergies. His Vancouver-based venture capital firm specializes in healthtech.

"I would say it's a growing space for us," says Geyer. "I think there's huge opportunity in it."

Before becoming a healthtech venture capitalist, he himself founded two medical device companies in B.C.—Neovasc, acquired two years ago by Shockwave Medical for \$135 million; and Mitroflow, which was eventually acquired by Italy's Corcym. Corcym maintains its heart valve manufacturing

in Burnaby.

Geyer now invests in medtech and healthtech startups, like B.C.'s Arbutus Medical, which makes surgical drills.

The biggest new player in the medical device scene in B.C. is Kardium, which is poised for significant growth.

Co-founded by three former Creo founders and executives, Kardium is poised to become B.C.'s biggest medtech manufacturer, based on a single device—the Globe Pulsed Field System. The Globe is a next-generation device for treating atrial fibrillation.

Kardium received U.S. Food and Drug Administration (FDA) approval for the Globe in September, and has been raising hundreds of millions of dollars and ramping up its manufacturing capacity in Burnaby.

Kardium already employs 500 people at its Burnaby facility, and plans to more than double its headcount. The company's current manufacturing capacity in Burnaby will allow it to build about 30,000 devices per year to start.

"This is a huge, big deal," Hurlburt says. "This is now becoming very significantly an anchor in our already quite strong tech sector."

In July, Kardium raised \$340 million in private equity. That was on top of \$104 million raised last year.

The money is being used to expand its manufacturing base and prepare for sales, in anticipation of FDA approval for the company's Globe device.

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Kardium's expansion plans will require 700 to 1,000 new hires, says CEO Kevin Chaplin.

The company was founded in 2007 after Dr. Sam Lichtenstein, head of cardiovascular surgery at the University of British Columbia, began exploring better ways of treating arrhythmia. Chaplin, who previously worked for Kodak, Sierra Wireless and Accenture, joined the company in 2008.

Lichtenstein partnered up with two former Creo founders, Dan Gelbart and Amos Michelson, and they went to work developing a next-generation device for treating arrhythmia.

The Kardium team developed the Globe Pulsed Field System—a spherical device with 122 gold-coated electrodes that provide high definition mapping of the atrium.

Atrial fibrillation is an irregular heartbeat. Conventional treatment involves identifying and destroying heart cells in the atrium that cause the arrhythmia.

This involves “mapping” the heart to identify the

bad cells and then destroy them with a pulse field energy device, which delivers jolts of electricity.

“Historically, for the last 25 years, they’ve been using a catheter with one electrode on the end,” Chaplin explained. “They’ve developed ones with five or ten electrodes, and now they have some with 10 or up to 20 electrodes. Our device has 122 electrodes.

“What that gives you is a much higher quality map and much faster, safer and more effective ablation.”

The device’s efficacy has been proven in clinical trials at a number of hospitals in Canada, the U.S. and Europe.

“The outcome of our clinical studies show that we have the lowest number of safety events,” Chaplin says.

“We had zero safety events in our study. We had a higher success rate, after following the patients for 12 months after the procedure, and it was the shortest procedure time of any device tested by the FDA. The patient doesn’t have to come back for repeat procedures.”



Kardium CEO Kevin Chaplin shows off his Burnaby-based company's Globe device, which is inserted into patients via catheter for treatment of heart problems. • ROB KRUYT



Kardium CEO Kevin Chaplin says the market is big enough for his company to focus on just one device for now and still be hugely profitable. • ROB KRUYT

The market for the devices is big and getting bigger, thanks to aging populations. It's expected that, within two years, more than one million procedures will be done annually globally to treat atrial fibrillation, Chaplin says.

"Even if we build 30,000 to 50,000 catheters in Vancouver, that represents less than three to five per cent of the overall global market," Chaplin notes. "So even with our massive scale-up plans, the market is big enough for us to focus on just one device for now and be a hugely profitable and sized company."

Kardium recently concluded a three-year pivotal study. With the recent approval from the FDA, the company's goal is to seek Health Canada and CE market approval, according to Chaplin.

In addition to its expansion plans in B.C., Kardium is also looking to build out manufacturing outside of Canada—Costa Rica being one potential location.

One of the challenges for any high-tech manufacturing is skilled labour.

"A lot of our employees right now have engineering backgrounds," Chaplin says. "Those cross all of the disciplines, from mechanical, electrical, software engineering, biomedical design, manufacturing engineering. So there's a wide range of engineering disciplines that we do hire across the board."

For assembling, Kardium has had to develop its own training centre, because it requires clean-room manufacturing skills.

"In Vancouver there's not a large pool of people that have specific clean-room medical device experience," Chaplin says. "That's why we've established our own training centre."

Chaplin says further expansions will likely require raising capital by going through an initial public offering.

"It's our expectation that, probably in the next two years, we would like our next financing event to be an IPO," Chaplin says. ♦





JULIA LEVY:

BREAKING BARRIERS & BUILDING AN INDUSTRY

Pioneer and mentor, Levy left a lasting legacy in B.C.'s biotech community

Julia Levy in her lab at the University of British Columbia in the 1980s. She was the first woman to hold a tenure-track position in UBC's Department of Microbiology and Immunology. • SUBMITTED

BY DAISY XIONG

Julia Levy held many titles—scientist, entrepreneur, educator, wife and mother. For many, she was also the woman who helped shape the modern life sciences industry in B.C.

From an immigrant from Singapore to the first female microbiology professor at the University of British Columbia (UBC), Levy founded one of first major life sciences companies on the West Coast and mentored hundreds, if not thousands, of industry professionals. Her legacy is deeply woven into the growth and success of B.C.'s life sciences community.

"A lot of her impact was not only on the science, but also on mentoring and developing people," Life Sciences BC CEO and president Wendy Hurlburt says of Levy, who passed away last December at age 90.

"The legacy of her and what she built at [her company] is still very much in the fabric of our ecosystem today."

Firm helped birth the biotech sector in B.C.

Levy became a professor in UBC's Department

of Microbiology in 1959. Her lab focused on cancer immunology and pioneered a treatment that uses light to activate abnormal cells to treat cancers and other conditions requiring medical attention.

In 1981, Levy entered the business world and co-founded the biopharmaceutical company Quadra Logic Technologies (QLT)—the first major B.C. biotech company built directly on university research. QLT went public in 1986, and Levy served as CEO and president from 1995 to 2001.

"She never expected to be in the commercial world. She was a research scientist," recalled husband Ed Levy, a retired UBC philosophy professor and former senior executive at QLT.

"But in Julia's view and mine, if you had a possible treatment that could help people a lot, and you're being involved in getting it developed, then that's a good thing to do."

At the time, B.C. had little biotechnology activity beyond university labs, with almost no venture capital, limited commercialization infrastructure, and

skepticism from investors who were unfamiliar with the industry. QLT was largely pioneering on its own.

QLT discovered and developed Visudyne, a groundbreaking treatment for age-related muscular degeneration—the leading cause of blindness in seniors. And Under Levy's leadership, QLT emerged as a globally recognized life sciences company.

"QLT was one of the first companies to spin out of a Canadian university that went public and had to raise capital from investors—that's now the way pharmaceuticals work, so Levy was a pioneer in that way," says Lana Janes, co-founder and COO of Abdera Therapeutics who worked at QLT from 2005 to 2017.

Those who worked with Levy recalled her as a thoughtful and compassionate leader who was wickedly smart with science and technology, and sharp in business. She was also a clear thinker unafraid of difficult conversations.

Other major firms emerged after QLT, including Angiotech Pharmaceuticals and Stemcell Technologies Inc., founded in 1992 and 1993, respectively. Together, these companies helped birth the biotech sector in B.C., according to Hurlburt.

"That spirit of what is possible in our ecosystem, a lot of that legacy goes to QLT," says Hurlburt.

Fostering the B.C. life sciences community

Nancy Harrison still remembers the warm response from Levy when she reached out after moving to Vancouver in the 1990s, looking to connect with local life sciences companies.

"She says, 'OK, why don't you come by my office?'" recalls Harrison, venture partner at Amplitude Ventures and a seasoned Vancouver-based life sciences investor.

"Levy maintained that generosity of time throughout her life, mentoring hundreds—if not thousands—of people in the industry until her final years. Many of those she guided went on to build their own companies in B.C. and mentor the next generation of leaders.

She also served on the boards of countless organizations, spanning biotech startups to non-profits, offering her advice and, together with husband Ed Levy, making early-stage investments. "She was so compassionate and kind. She always had time for aspiring young scientists, no matter what stage they were at in their career," says Janes. "I'm sure there is not a company in British Columbia and beyond in the Canadian ecosystem that does not have tentacles back to QLT, Julia, and the mentoring and ecosystem she built."

Between 2017 and 2023, Levy was actively involved as a mentor at Creative Destruction Lab (CDL) Vancouver—a program that helps early-stage science-based ventures scale. She was honoured as Fellow of the Year: Mentor amongst Mentors by CDL Vancouver in 2020.

In a room of 100 people, attendees could "hear a pin drop" when they knew Levy was going to speak, according to Paul Cubbon, a UBC Sauder School of Business lecturer and co-founder of CDL Vancouver. "[What Levy had to say] was not necessarily the obvious thing," says Cubbon. "She was wise and thoughtful but not sugarcoating in advice. ...She had great insight in a very practical way, and it was a pleasure and an honour to experience her."

Levy was present in every conversation and treated everyone, no matter their rank or position, as an important person. She also inspired confidence in those around her, according to those who spoke with about her legacy.

B.C. has one of the healthiest and fastest-growing life science sectors in Canada, thanks in largely in part to the nurturing community Levy helped build, according to Harrison.

"They gave the rest of us time, and so we give other people time," says Harrison. "Having leaders like her showed the rest of us that was the way to build a community of successful companies."

Breaking the glass ceiling for female leaders

Levy's impact went beyond her company and the life sciences industry—she showed how an immigrant woman with a humble background could achieve far more than many believed possible in a male-dominated industry more than half a century ago.

"She helped to break the glass ceiling for female scientific founders," says Cubbon.

"Being a female leader in business in the 1980s and 1990s was harder itself. Being a scientific founder that was flying into New York and Boston to raise large amounts of money ... she had to deal with a bunch of not such good things."

Ed Levy says his wife was naturally shy, which was not typical for a CEO. However, when it came to her commitment to the firm and the industry, she overcame her shyness and ended up talking to "the masters of the universe on Wall Street" and convinced them to invest in QLT.

He says that he saw in Levy the qualities that many female leaders have, including her ability to care for and connect with those around her, and to listen without letting ego get in the way.

Levy and other QLT co-founders built a culture that ensured employees were cared for and supported—well ahead of its time, according to Janes. For example, staff could bring their children to the office when needed and have them in a kid's room while attending to critical tasks.

"The company knew that if we cared about people, they in turn cared about the company and the hard work we were trying to do," says Janes, who, like many others, went on to build her own companies with the same culture of care, knowing it was the key to success.

For Harrison, seeing a woman leader successfully balance career and family in a male-dominated industry was inspiring—a choice that remains challenging today.

"She did it completely as a female. She didn't become somebody other than she was," says Harrison, noting that Levy embraced every role and never pretended balancing all those responsibilities was easy.

Outside of her work and mentoring, Levy loved spending time with family and friends, gardening, and engaging in philanthropic activities, according to her husband. She passed away on December 5, 2024, in Lund, B.C., where she and Ed Levy had relocated in 2020.

"We all appreciate her—really appreciate her," says Harrison. ♦

SEIZING A GENERATIONAL MOMENT TO BUILD THE FUTURE OF BIOTECH IN B.C.



BY TAMER MOHAMED

When people think of global biotech hubs, Boston and the Bay Area are often the first mentioned. But in recent years, British Columbia has been quietly building the foundation for a thriving biotech ecosystem rooted in Canadian ingenuity. This intersects with a once-in-a-generation opportunity to redefine not just the future of our health, but the future of our economy and national security as biotechnology proves its dual-use power. The question is: how do we leverage our strengths to seize this moment of opportunity?

Evolving Canadian discovery to commercial impact

Canada has a long history of scientific innovation: from the discovery of insulin to pioneering work in stem cell science that opened new frontiers in regenerative medicine. It is now critical that we transition from great research and discovery to commercialization and manufacturing of therapies that create real patient impact. Unlike other G7 nations, Canada has no global pharmaceutical company ranked among the world's leaders by market capitalization. The good news: we have never had a better chance to change that.

B.C. is positioned for success

B.C. is building a critical mass of homegrown, globally relevant biotech companies with the ability and drive to become generational companies. These companies have the technology and vision to go the distance.

Despite a challenging global biotech climate, biotech in B.C. continues to grow—gaining regulatory approvals, raising significant funding and securing key partnerships. Major pharma players are increasingly looking to B.C. for transformative science, validating our ecosystem on a global stage. One example is Aspect Biosystems' US\$2.6-billion partnership with Novo Nordisk to develop curative therapies for diabetes and obesity.

Top talent is also flowing into B.C.

as they look to live and work where they will have the greatest impact. In recent months, Aspect has brought multiple new leaders from the U.S. The current geopolitical landscape is creating uncertainty in traditional biotech hubs, opening the door for B.C. and Canada.

Securing our future

For an industry as capital-intensive as biotechnology, industry-government collaborations are critical for Canadian companies with the ambition to be global leaders. A \$200-million partnership between Aspect Biosystems and the governments of B.C. and Canada reflects this principle in action: a commitment to working together to accelerate breakthrough technology that can scale and endure.

Partnerships like these send a powerful message that Canada is willing to invest in its strongest innovation to ensure we can develop, manufacture and scale new medicines here at home. Canada has a competitive edge in advanced therapies, including cell therapy, and we need to continue doubling down in these areas of strength. When homegrown biotech companies own the finish line, instead of passing the baton to another country, we don't just improve our health, we create high-value jobs and grow our GDP.

Biotechnology's dual-use power

At a time when Canada is significantly increasing defence spending, we must recognize that other nations are strategically leveraging biotechnology's dual-use nature to drive economic growth, health security and national defense. In the United States, defence agencies back breakthrough biotech innovations, including the early development of mRNA vaccine platforms and investments in regenerative medicine and advanced therapies. Canada has everything it needs to do the same. ♦

Tamer Mohamed is the founder and CEO of Aspect Biosystems.

LEADING THE NEW WAVE OF THERAPEUTICS



Researchers at Zymeworks test and refine next-generation antibody platforms. • ZYMEWORKS

Global pharma partnerships, major acquisitions and homegrown breakthroughs show how far B.C. has come

BY BRIGITTE PETERSEN

Despite a challenging global investment climate, B.C.'s life sciences companies continue to develop new therapeutics, attract partnerships and close major deals.

Yet as recent funding announcements, company acquisitions and reinvestment help support R&D and bring new drugs to market, some challenges remain.

The local sector has come a long way over the past two decades. To demonstrate its progress, Vancouver-based life sciences advisory and investment firm Novateur Ventures recently created two diagrams, one of which—the B.C. therapeutics innovations graphic—tracks 26 drugs over 25 years.

“Very few jurisdictions, outside of Boston, San Francisco and New Jersey, have that many drugs that have originated there and have reached global markets,” says Ali Ardakani, Novateur's founder and managing director.

Starting with QLT's Visudyne, AngioTech's Taxus Stent, and Aspreva's CellCept, the graphic travels a road of therapeutics reaching the market, but not always in Canada. It shows how the sector has shifted from single-product companies to those generating multiple products in biologics, antibodies and next-generation therapies.

“We've really evolved from simpler technologies and therapeutics to much more complex platform technologies, which open up a lot more opportunities for patients worldwide,” says Ardakani.

This new diagram complements the B.C. biotech scene diagram, which Novateur created two years ago to illustrate publicly disclosed partnerships between academic and research institutions, B.C.-based companies and global pharma.

According to a BC Life Sciences 2024 labour market intelligence study, local biotech has attracted US\$13 billion in private sector investments over the past decade. While B.C.'s life sciences contributed \$3.1 billion to the GDP in 2022 and has created about 30,000 jobs, it will need to fill at least 5,500 positions by 2027.

Despite other key challenges including the need for more late-stage capital, affordable lab and manufacturing space and improved clinical trial infrastructure, Ardakani sees a successful road ahead. “I'm really excited about the future of life sciences in British Columbia,” he says. “If you look at it now,

we're starting to become a mature forest, meaning that the talent has been recycled. It has grown; it's matured. We've been able to attract talent from around the world to come here, move here and work with our companies.”

Ardakani says B.C. life sciences companies like Acuitas Therapeutics, Zymeworks, Kardium and AbCellera Biologics are “deliberately partnering globally while scaling locally.”

“They're meeting with the best of global pharma, and they're developing their platforms at a global level, but they're developing jobs at home.”

Global partnerships drive commercialization

B.C.'s life sciences has translated research into marketable products, including Zymeworks' Ziihera (zanidatamab). Last year in the U.S., the FDA approved the drug to treat previously treated, unresectable or metastatic HER2-positive biliary tract cancer.

Ziihera, not yet available in Canada, is the world's first bispecific antibody commercialized for HER2 expressing tumours, initially targeting biliary tract cancer and gastric/esophageal adenocarcinoma, with ongoing phase three trials in metastatic breast cancer. BeOne Medicines holds Ziihera's commercial rights in the Indo-Pacific and Jazz Pharmaceuticals holds them everywhere else.

“It's really a fantastic discovery by scientists who were educated, trained and did their work right here in Vancouver,” says Ken Galbraith, chairman and CEO of Zymeworks. “And it's developed with capital which came from Canada, U.S., and Europe on a global basis by ourselves working with partners around the world.”

Galbraith previously served as chief financial officer of QLT, which attracted international investment to bring its first oncology drug, Photofrin, to market.

He says the sector has long punched above its weight. “We've been able to have innovations that have made it to market which are as good or better than any made by scientists anywhere else in the world,” he says.

Keeping the sector globally competitive while retaining talent continues to be a challenge, yet Galbraith says B.C. continues to secure global capital and build partnerships.

“We've got a really great research base in our universities and closely aligned research institutions,” he says. “If you look at the history of new medicines that have been created in B.C., they're amazing breakthroughs, creating real opportunities to benefit





To allow the life sciences sector to continue to expand, Jade Biosciences CEO Tom Frohlich says B.C. needs more clinical development and regulatory expertise. • CASARSAGURU/E+/GETTY IMAGES

patients in a significant way, and that's been going on for a long time."

Developing critical mass

Switzerland-based Novartis acquired B.C. kidney disease treatment company Chinook Therapeutics for \$3.5 billion. A year later after the deal was completed, Borealis Biosciences formed in 2024 with a US\$150-million investment from Versant Ventures and Novartis, allowing capital and talent to stay in B.C.

Borealis, focused on developing RNA medicines for kidney disease, is located in Chinook's previous Vancouver lab space. The startup kept most of Chinook's preclinical team—a win for the local sector, according to Jade Biosciences CEO Tom Frohlich. Frohlich, Chinook's co-founder and chief operating officer, says Borealis' work to deliver nucleic acids to the kidneys could open up a new field of therapeutics. "A lot of times when there are acquisitions, people get disbanded," he says. "Having that group stay together

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The Zymeworks lab focuses on therapies for complex cancers. • ZYMEWORKS

as Borealis is exceptionally useful for the industry.”

Massachusetts-headquartered Jade, which develops therapies for autoimmune diseases, recently opened a Vancouver office where Frohlich and other operational staff are based. Founded in 2024, Jade is currently developing three assets.

“Our lead program, which is targeting a rare and severe kidney autoimmune disease, is aimed to get in the clinic by the end of this year. And our second program, we’re on track to get it into the clinic in 2026,” says Frohlich.

Jade, which merged with Aerovate Therapeutics in spring 2025, has US\$300 million in funding to develop JADE101 to target the anti-APRIL (A Proliferation-Inducing Ligand) pathway for the treatment of immunoglobulin A nephropathy (IgAN), a chronic kidney disease. The company’s second development candidate, JADE201, and an undisclosed antibody discovery program, JADE-003, are both in preclinical development.

“We want to hire people here in B.C.,” says Frohlich. “My goal is to spend a significant amount of that money in B.C. to make sure we’re really pushing forward the local economy.”

The Aerovate merger allowed Jade to be publicly traded on the Nasdaq as the former company was

already listed.

“We’re moving really quickly to becoming a company with multiple drug candidates in the clinic,” explains Frohlich. “To move those kind of programs forward, you need a significant amount of funding, so we took the approach that we wanted to access the public markets as quickly as possible.”

Frohlich says B.C.’s track record continues to attract global attention.

“It’s so complicated to develop a drug, to get approval, that you need to understand the pathway really clearly,” he says. “You need to be able to see around corners to what mistakes you might be making. Having that experience of doing it over and over, and having a set of leaders and scientists, entrepreneurs who’ve done it before several times locally, is helping attract more and more investment here.”

To allow the sector to continue to expand, Frohlich says B.C. needs more clinical development and regulatory expertise.

“It’s a really exciting time, for B.C. because there’s also a number of other companies doing similar things that are building that critical mass,” says Frohlich. “That enables us to develop a really vibrant industry here that can just continue to grow.” ♦

27th ANNUAL LIFE SCIENCES BC AWARDS



These are the companies and organizations that have made an impact on our life sciences ecosystem in the past year.

2025 COMPANY OF THE YEAR ZYMEWORKS



Approvals, clinical advancements, and multimillion dollar milestones this year for Zymeworks

Zymeworks is a global clinical-stage biotechnology company advancing novel biotherapeutics for difficult-to-treat diseases, including cancer, inflammation, and autoimmune disorders. Its fully integrated development engine and proprietary platforms enable the design of highly differentiated antibody-based therapies. Zymeworks developed Ziihera® (zanidatamab-hrr), the first dual HER2-targeted bispecific antibody approved for HER2-positive biliary tract cancer in the U.S. and China. The company is actively recruiting for Phase 1 trials of ZW171 and ZW191, with ZW251 expected to enter the clinic in 2025. In addition to its internal pipeline, Zymeworks' platforms are leveraged through strategic partnerships with leading global biopharmaceutical companies.



EMERGING COMPANY OF THE YEAR

VARIATIONAL AI



Collaborations and oversubscribed \$5.5 M financing

Based in Vancouver, Variational AI is applying generative AI to early-stage small molecule drug discovery. Its Enki™ Platform is a foundation model that rapidly generates novel small molecule leads and optimized leads tailored to customer target product profiles, simultaneously optimizing for potency, selectivity, ADMET, and other drug-like properties. Unlike conventional drug discovery approaches starting from known molecules and libraries, Enki™ generates de novo chemical structures - opening access to unexplored regions of chemical space. By enabling rapid identification of novel hits and efficient lead optimization for biopharma innovators, Variational AI is redefining the unit economics of drug discovery for better patient outcomes.

EMERGING COMPANY OF THE YEAR - MEDTECH

ARBUTUS MEDICAL



Expanding device usage in hospitals and 126% compound annual growth

Arbutus Medical Inc. builds surgical workflow solutions for decentralized care settings. Its first two kits—TrakPak® and SwiftKit™—streamline orthopaedic trauma procedures performed in Emergency Rooms and are now used by 75+ U.S. hospitals, including 20% of Level 1 Trauma Centers. With 126% revenue CAGR since 2021 and 25 new hospitals added in the first half of 2025, Arbutus is scaling rapidly. The company is building the market's first portfolio to streamline an estimated 1 million minor orthopaedic surgeries performed in North American ERs annually. Arbutus is backed by BC-based investors including Nimbus Synergies, Genome British Columbia, and eFund.

STRATEGIC PARTNER OF THE YEAR

PHC VENTURES



Actively supporting partnerships that translate clinical challenges into scalable innovations

PHC Ventures is the technology and commercialization platform of Providence Health Care, bridging the gap between health innovation and implementation. It identifies, nurtures, and deploys innovative solutions that benefit patients and providers across a wide range of health domains. Through strategic partnerships and deep sector expertise, PHC Ventures supports innovation growth, validation, and scaling. With a focus on sustainable innovation and meaningful collaboration, PHC Ventures is helping shape the future of health care in British Columbia and beyond—driving impact where it matters most.

DEAL OF THE YEAR

NANO VATION THERAPEUTICS



Multi-target partnership with Novo Nordisk

NanoVation Therapeutics is a pioneer in the design and creation of lipid nanoparticles (LNPs) for nucleic acid delivery. The company's LNP technologies aim to overcome the limits of existing approaches to nucleic acid delivery, including the ability to target tissues outside the liver (extra-hepatic delivery). NanoVation's lead technology is its proprietary long-circulating LNP (lcLNP™) platform, which enables functional nucleic acid delivery to extrahepatic cell types with improved therapeutic index. NanoVation partners with leading pharmaceutical and biotech companies to enable the development of genetic medicines for previously untreatable diseases. In 2024, NanoVation signed a Multi-Target Partnership with Novo Nordisk to develop genetic medicines targeting cardiometabolic and rare diseases.

DR. DON RIX LIFETIME ACHIEVEMENT AWARD

DR. MICHAEL HAYDEN



Dr. Hayden is a Killam Professor at UBC. He is the co-founder of five biotechnology companies and sits on different public and private boards. He is the most cited author in the world on Huntington Disease (HD). Authoring over 950 publications, his research focuses on translational medicine, including HD, predictive medicine, and drug development. He identified the first mutations underlying LPL Deficiency and developed gene therapy approaches resulting in the first approved gene therapy (Glybera) in the world. Recipient of numerous awards, he has been recently awarded Doctor of Science in Medicine (honoris causa), UCT (2024). He has mentored over 100 trainees and is also a TED mentor.

MILTON WONG COMMUNITY LEADERSHIP AWARD

ALI ARDAKANI



Ali Ardakani is an impact driven executive, entrepreneur, and strategist with over 20 years of experience advancing innovations in oncology, ophthalmology, immunology, and medical devices from early development to FDA approvals and global launch. He is the Founder & Managing Director of Novateur Ventures, supporting life science breakthroughs worldwide, and Co-Founder & CEO of Optigo Biotherapeutics, developing long-acting ocular biologics. Previously Senior Vice-President at Beyond Air (NASDAQ: XAIR), he helped lead the company from concept to IPO. A past Chair of Life Sciences BC and current BC Cancer Foundation board member, Ali Ardakani champions partnerships that transform care and strengthen Canada's life sciences ecosystem.

SCIENTIFIC ENTREPRENEURSHIP AWARD

DR. POUL SORENSEN



Dr. Poul Sorensen is an internationally renowned expert in childhood and young adult cancers. His laboratory has discovered many novel genetic alterations in these diseases, which has been translated into new therapeutics and diagnostic tests for specific tumours. One particular achievement is his lab's discovery of a recurrent genetic feature in human tumours called an NTRK fusion. This discovery led to Health Canada, FDA, and now worldwide approval of a first-in-class Bayer licensed NTRK kinase inhibitor, Vitrakvi. Additionally, his group is developing novel immunotherapy reagents across diverse cancer types, and he is co-founder and board member of VAR2 Pharmaceuticals in Copenhagen, an antibody therapeutics company.

GENOME BRITISH COLUMBIA AWARD FOR SCIENTIFIC EXCELLENCE

DR. FIONA BRINKMAN



Fiona Brinkman is a Distinguished Professor at Simon Fraser University in Molecular Biology, Biochemistry, Health Sciences, and Computing Science, and is most known for R&D of widely used software that aids integrative analyses of microbe and human genomics data. Her research has provided insights and informed policy on pathogen evolution, factors associated with child health, and environmental microbiome applications. She's on several international Scientific Advisory Boards/committees, including ELIXIR and the European Nucleotide Archive. A fellow of the Royal Society of Canada, her awards include a TR100 award from MIT and Thompson Reuters "World's Most Influential Scientific Minds".

COMPANIES TO WATCH

RECOGNITION HONOUR ROLL



Avee Health is redefining how primary care is delivered in Canada, with a focus on accessibility, patient experience, and technology-enabled efficiency. Officially launching in 2022, Avee Health targeting a clear market need: bridging the access gap between patients and timely primary care.



CereCura Nanotherapeutics is on a mission to conquer untreatable brain diseases. Its innovative LNP-mRNA technology activates the brain's natural capabilities, turning its cells into "factories" that deliver therapeutic proteins with unprecedented precision. CereCura is forging a new frontier in genetic medicine, poised to deliver transformative solutions for neurological disorders that desperately need them.



Guidestar has relentlessly pursued their mission to ensure the rate and complications associated with dural punctures are reduced/eliminated. Its lead device, EpiZact aims to add a margin of safety to epidurals that has never existed before, alleviating patient concerns, and deliver cost savings for healthcare providers.



Optigo Biotherapeutics is a Vancouver-based preclinical-stage biotechnology company pioneering a proprietary platform of long-acting, bi-functional biologics aimed at treating chronic retinal diseases such as neovascular age-related macular degeneration (nAMD), diabetic macular edema (DME), and retinal vein occlusion (RVO).



Known for its cutting-edge technological solutions, Phyton Biotech is a leader in the application of Plant Cell Fermentation Technology to derive important phytochemicals used in pharmaceuticals, cosmetics, and food industries at commercial scale. This technology serves an important role in securing at-risk supply chains, and in the preservation of our planet's endangered plants.

Life Sciences BC – where the ecosystem comes together

With more than 250 members and growing, LSBC continues to represent the life sciences sector in British Columbia and beyond in the following categories:

- Academic and research institutions
- Accelerators, incubators and investors
- Associations and government
- Biotechnology
- Global pharmaceutical corporations
- Health technology (digital technology and medical technology)
- Individuals and students
- Professional services
- Scientific/lab services and supplies
- Therapeutics



Learn more about LSBC's members, which comprise the core of this vibrant, dynamic and allied association.

Building a competitive edge: How Clinical Trials British Columbia is strengthening research

How does an idea become a life-saving treatment?

Robust clinical trials provide the crucial link between research and care. They assess new medicines, vaccines, and medical technologies in humans to ensure safety and effectiveness.

A strong clinical trials ecosystem is key to driving better health outcomes and economic growth. Under the leadership of Clinical Trials British Columbia, our province has taken promising steps this year to unlock its potential as a thriving hub for clinical research.

Expanding BC's capacity for Phase 1 clinical trials

This year, two dedicated Phase 1 clinical trial units opened in BC. Clinical Trials British Columbia and Health Research BC partnered with Providence Health Care to open the province's first healthy volunteer unit at Mount Saint Joseph Hospital. It's the first facility in BC dedicated to early-stage trials of non-cancer treatments.

Vancouver Coastal Health launched a new inpatient hematology clinical trial unit at Vancouver General Hospital in May focused on early-phase blood cancer treatments including first-in-human treatments.

First-in-human trials provide key safety data and establish the best dosage to balance effectiveness and patient safety. For cancer treatments, Phase 1 trials are the first time patients can access new medicines. Without the ability to conduct Phase 1 trials in the past here in BC, companies had to relocate to other provinces or countries to move forward with assessment.

"BC's life sciences companies work hard in discovery. We have so much success," says Alison Orth, Director, Clinical Trials British Columbia. "We don't want to just give that away. Because once companies move operations elsewhere, they don't often come back."

Enabling more Phase 1 clinical trials means treatments that can improve



| Jacob Wackerhausen

quality of life may reach patients faster. Research shows that strong clinical research strengthens the healthcare system. Phase 1 trials also benefit BC's economy by keeping the entire innovation cycle here in BC. Expanding BC's clinical trials capacity is a key pillar of the provincial government's Life Sciences and Biomanufacturing Strategy.

In addition to supporting new trial facilities, BC is also modernizing how clinical trials are done. Clinical Trials British Columbia provides REACH BC, an online platform launched in 2020 that connects the public to opportunities to take part in research. Close to 10,000 volunteers and more than 1,600 researchers are currently using the platform.

"Research can be care," Alison says. "A person's health can improve as a result of being in a trial."

Clinical Trials British Columbia takes on new leadership role

Looking ahead, Clinical Trials British Columbia will take the lead on a unified, province-wide approach to clinical trials. Until now, BC lacked a single, strong provincial organization to coordinate clinical trial activity. Following an

analysis of BC's clinical research ecosystem and discussions among provincial clinical trials organizations, Clinical Trials British Columbia will step into this critical role.

This change will align Clinical Trials British Columbia with comparable organizations in Ontario, Quebec, and Alberta.

"We're thrilled we can respond to this need for strong leadership in clinical trials," says Danielle Lavallee, Vice President, Research Programs, Michael Smith Health Research BC. "By facilitating collaboration, streamlining processes, and advocating for BC's interests, we can improve healthcare and boost our economy."

This is an important step forward that builds on the great work already happening across the ecosystem. Health Research BC will now convene a working group of provincial research leaders to lay the foundation for a long-term plan to maximize BC's potential.



2024 LSBC Award Winners with our President & CEO, Wendy Hurlburt.



At LSBC's 2025 Career Connect Day, we hosted over 500 attendees.

Continuing to power the
fastest-growing life sciences
sector in Canada

Life Sciences BC 2024-25



LSBC and Novateur Academy's Biotech Business Development & Licensing Masterclass: Blueprint for Success.

Our Thriving Network in Numbers

280+ members

25+ events

28500+ Social Media followers

180+ speakers

4300+ newsletter subscribers

2600+ attendees



LSBC receives up to 1.125 million from Pacific Economic Development Canada to catalyze the growth of BC-based life sciences companies.



A panel with Wendy Hurlburt and Gordon McCauley at our annual Access to Innovation conference, moderated by Sean Silcoff.



LSBC team at 2025 Web Summit Vancouver.



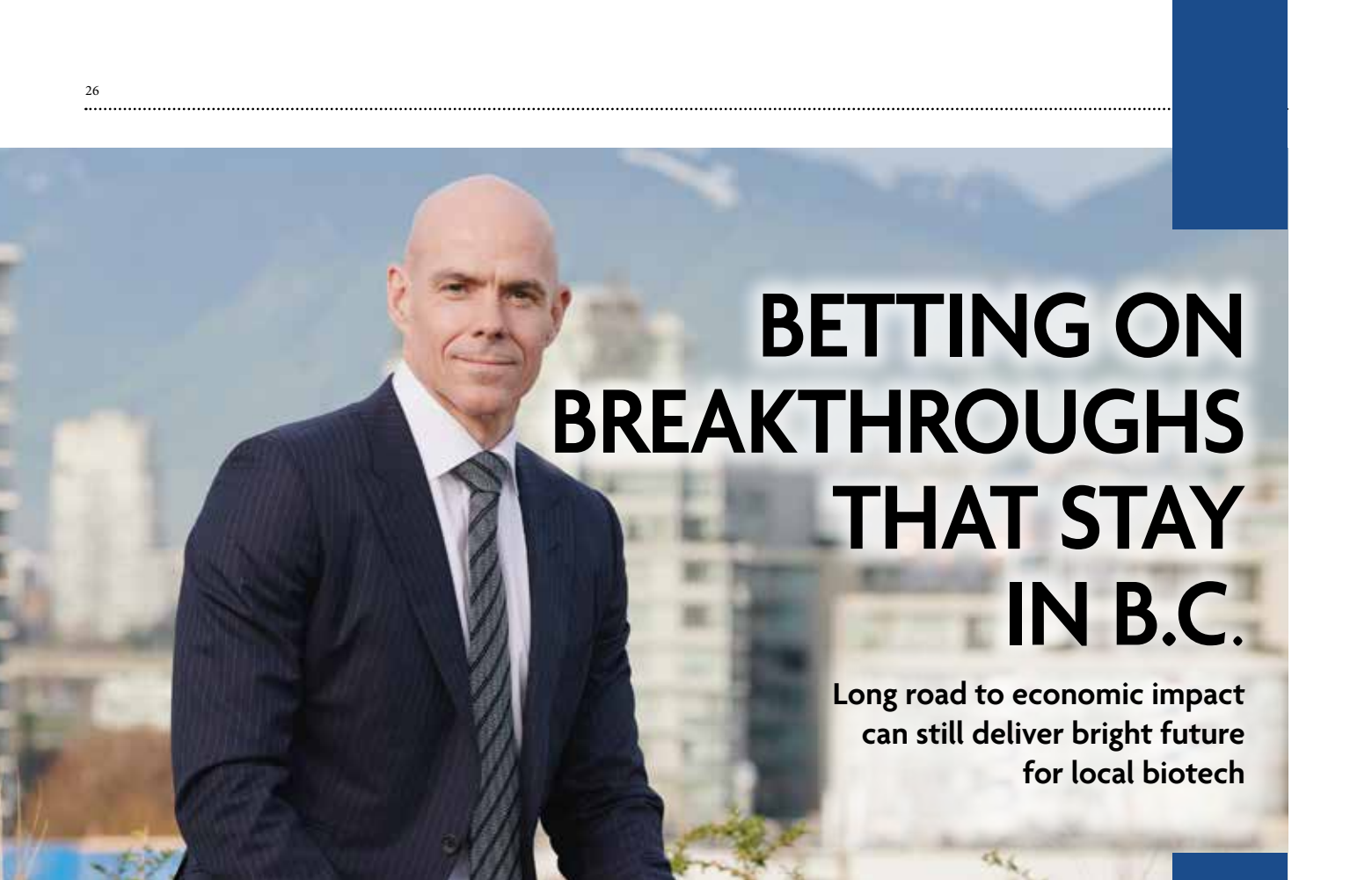
Wendy and Minister of Jobs and Economic and Growth, the Honourable Diana Gibson, at the Canada Pavilion at 2025 BIO Boston.



2025 Summer Social, LSBC's most anticipated event of the year.



LSBC's President & CEO Wendy Hurlburt in Hong Kong, participated in the Canadian delegation organized by the Hong Kong Trade Development Council.



BETTING ON BREAKTHROUGHS THAT STAY IN B.C.

**Long road to economic impact
can still deliver bright future
for local biotech**

AbCellera CEO Carl Hansen says B.C.'s biotech sector must resist selling out early if it wants to scale into a global leader. • SUBMITTED

BY EVAN DUGGAN

That process of bringing a drug, a product or a treatment through discovery, clinical trials and approvals, and then to markets around the world while building a company from the ground up can take as long as 25 years.

Sometimes, through that process, an anchor company is born and matures and blossoms, says AbCellera president and CEO Carl Hansen.

While there are signs pointing to that great potential here in B.C. and in Canada, there are also habits that have stunted breakthroughs despite the excellent science that is being developed in B.C. labs. And now, a new threat has emerged: an anti-globalization movement capitalized by the ongoing trade conflict with the U.S., weaker investment and broader political uncertainty.

The keys to pushing through these challenges, Hansen and others say, is to focus on diversification of life sciences and biotech in this province, and to stay invested and dedicated to building long-term, economy-shifting companies. Strength will also require resistance to selling out achieved science to U.S. companies that will go on to enjoy the profits and related benefits.

Ravi Kahlon, B.C.'s minister of jobs and economic growth, says activity and investment remains strong in B.C. despite trade turmoil and economic uncertainty. With 2,000 biotech companies and more than 20,000 workers, "we continue to see investments coming in, even with the headwinds that we're facing in this kind of uncertain economic environment," Kahlon says.

"We're still seeing companies getting access to more capital, and we only see that growing as we go forward, and in fact, as we work on updating our economic strategy for the province later this fall, life sciences will be playing a critically important role in that."

Kahlon particularly sees challenges emerging with supply chains that are essential to the health technology business.

That said, B.C. and Canada remain open for business and trade even if the U.S. is no longer the trusted partner it once was, the minister says.

"We continue to reach out and build new relationships and partnerships in Europe with our Asian partners," he says. "The old saying goes, as one door closes, the others will open, and we certainly are hearing that from our partners."

'A lot of optimism, but a dangerous time'

Founded in Vancouver by six scientists about 13 years ago, AbCellera has emerged as a global biotech firm that discovers, develops and sells medicines and therapies. The company has developed a solid business foundation and is ready to unleash its commercial global "super structure," Hansen says.

AbCellera's platform covers the entire process of creating antibody medicines, from initial discovery to clinical manufacturing. In 2023, AbCellera shifted from a partnership-based business to developing its own medicines. Today, AbCellera is focused on discovering and developing antibody-based medicines in the areas of endocrinology, women's health, immunology and oncology.

"We just had our first two programs that got cleared for our own clinical development here in Canada,"

Hansen says, describing an antibody treatment for post-menopause hot flashes for women, and a second program focused on developing antibody medicine for eczema. “We have a chance to really scale up.”

Hansen says their achievements partly stem from working with the provincial and federal governments. “We’ll have the first antibody manufacturing facility in Canada up and operational this year,” he says. The facility in Vancouver’s False Creek Flats will be used to make antibodies for a variety of Phase 1 clinical trials. The facility was a co-investment between AbCellera and the Canadian government that began in 2020 in response to the COVID-19 pandemic.

Additionally, a “big part of AbCellera’s success” came through contracts with the U.S. Department of Defense, according to Hansen. In 2018, AbCellera was contracted for four years by the Defense Advanced Research Projects Agency (DARPA) to develop rapid countermeasures against viral outbreaks under a pandemic prevention program.

Two years into the project, COVID-19 emerged, and AbCellera used its pandemic response platform to discover two antibody treatments against the virus that were used to treat more than two million high-risk patients and saved tens of thousands of lives, the company says.

“Our work on COVID-19 ... ultimately resulted in products that brought in nearly a billion dollars in revenue,” Hansen says.

Every jurisdiction that has had successful biotech industries has been backed by industrial policy and government support, he adds.

“Boston’s [industry] was designed and created, and it is the epicentre right now for biotech,” says Hansen, adding B.C. and Canada need to follow that path to critical mass.

Biotech at a high point in Vancouver, but still lacks breakthrough

Biotech is at its high point in its history in Canada, and particularly in Vancouver, says Hansen.

“It’s still obviously not at the breakthrough scale and profitability and sort of dramatic economic output that some sectors have seen,” he says.

The current backdrop of uncertainty and trade conflict has continued to dampen the broader health and tech industry, Hansen says.

“The high point [was] in 2020 and it has been just all downhill since then,” he says. Some of that pain, meaning lack of investment and struggling supply chains, has resulted in biotech companies laying people

off, shelving innovations and consolidating.

“In that backdrop, B.C. firms have been remarkably resilient,” Hansen says.

“We don’t want our current projects and companies getting wiped out or sold out.”

B.C.’s biotech sector could see broader economic maturity—or its breakthrough moment—by 2035, but a lack of investment, staying power and commitment to commercialization here could threaten that, pushing maturity back to 2045, Hansen says.

“There’s a lot of optimism, but it’s a dangerous time,” he says.

Diverse list of global customers has protected Stemcell

Allen Eaves, president and CEO of Vancouver-based Stemcell Technologies, says his company is a little different than other organizations that rely on third-party investments.

“We’ve never taken investor funding and have grown endogenously over the last 30 years. And we’re now very much an international company,” he says.

Stemcell Technologies is Canada’s largest biotech company that develops cell culture media, cell separation systems, instruments and other re-agents.

Of their sales of research products, their biggest market remains the U.S. at 59 per cent of their sales. That means the remaining 41 per cent is from Europe, China and the broader Asia-Pacific, Eaves says.

“We ship to facilities and customers in 80 countries, and we’re benefiting from this global interest in using cells to treat various diseases and to understand these diseases through the knowledge of cell biology,” he says.

But overall investment is ebbing, he cautions. Following the COVID-19 inflection point, investors were pumping a lot of money into biotech and that fuelled development and growth here in B.C.

“Investors have now disappeared to a certain extent, [they’ve] gone after AI and other things,” Eaves says.

Working on the ‘next phase of support’

Kahlon agrees that producing an economic structure that leads from R&D to clinical trials to manufacturing the health products to marketing them is key.

“We are engaged right now with the sector to identify what ... the next phase of support and partnership look like to be able to continue this growth. And so far, the feedback has been positive. We’re getting good ideas, and we’ll certainly be incorporating that in our work later this fall,” says the minister, whose portfolio includes the innovation sector.

Getting blockbuster products to the market

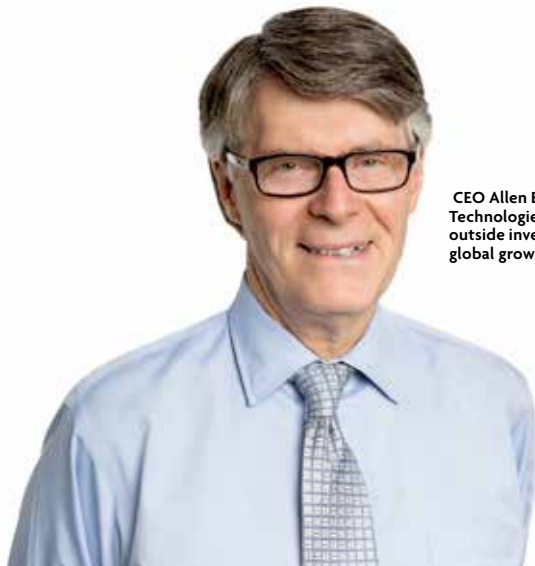
“You need to get blockbuster products onto global markets,” AbCellera’s Hansen says.

That unleashes staying power and when the world needs what you produce, those products and services become much tougher to tariff, he says.

“That requires that you have ... built a real company that can continue to generate innovation so you can bring multiple hits forward,” he says. “If we can keep control of that and see it through... [we will] be able to point to a significant shift in the GDP of British Columbia and Canada when we get there.”

That will require good policies so that there aren’t financial incentives to make the company move somewhere else,” he says. It’s a mix of favourable tax policies, financial support, access to capital markets, sensible government procurement and more aggressive company-building by local researchers and organizations. ♦

CEO Allen Eaves credits Stemcell Technologies’ independence from outside investors for its steady global growth. • SUBMITTED



HOW OUR LIFE SCIENCES ECOSYSTEM POSITIONS B.C. FOR GLOBAL SUCCESS



BY SUZANNE GILL

The global economy is navigating uncertain waters. Trade wars, fractured supply chains and shifting geopolitics are creating headwinds for every sector.

Against this backdrop, British Columbia's life sciences ecosystem has emerged as one of our most resilient assets. This vibrant sector drives health and environmental innovation and anchors high-value jobs and economic stability.

At Genome British Columbia (Genome BC), we have spent the past 25 years doing more than funding science. Our mandate is to create the conditions for discoveries that lead to impact for the province. We support startups, small- and medium-sized enterprises, and help researchers transform bold ideas into globally competitive solutions.

Building the conditions for scale-up

One of the persistent challenges for young companies is accessing capital and expertise in their early stages. Genome BC bridges that gap with programs such as Genesolve, the Sector Innovation Program, the Genomics Innovation Fund and the Industry Innovation Fund. These initiatives provide more than just funding. They provide mentorship, networks and the validation that helps companies attract further investment.

The results are clear. Companies like AbCellera, Aspect Biosystems and Precision NanoSystems were able to take their first steps toward commercialization with Genome BC's support. Today, they are recognized internationally; two as leaders in cutting-edge therapeutics, and one acquired by Danaher Corporation and integrated into Cytiva. Their success illustrates how early public investments and patient partnerships can help B.C.-born companies scale on the world stage while staying anchored here at home.

Collaboration as a competitive advantage

British Columbia's greatest strength lies in the way we collaborate. Our province brings together world-class

academic researchers, entrepreneurial start-ups, pharmaceutical companies, investors and government in a shared ecosystem. Genome BC plays a key role in this network, convening partners and the ecosystem to ensure that the right ideas and partners converge at the right moment.

This collaborative model allows us to move quickly when opportunities arise. Whether advancing precision cancer care, strengthening pathogen surveillance, improving food security or building climate resilience, our ability to align across sectors gives BC a unique edge. In a global market that prizes speed and trust, this agility is the province's competitive niche.

Resilience in a turbulent economy

Amid growing instability of global systems, investments in genomics and life sciences reduce B.C.'s reliance on external supply chains by equipping us to innovate locally, from health technologies to sustainable agriculture to environmental monitoring. They also diversify our economy, creating highly skilled jobs and intellectual property that are less exposed to volatile commodity cycles.

Genomics is more than just a scientific discipline. It also serves as a safeguard against economic turbulence. It positions B.C. to anticipate and adapt to global shocks, while also shaping new opportunities in rapidly evolving markets.

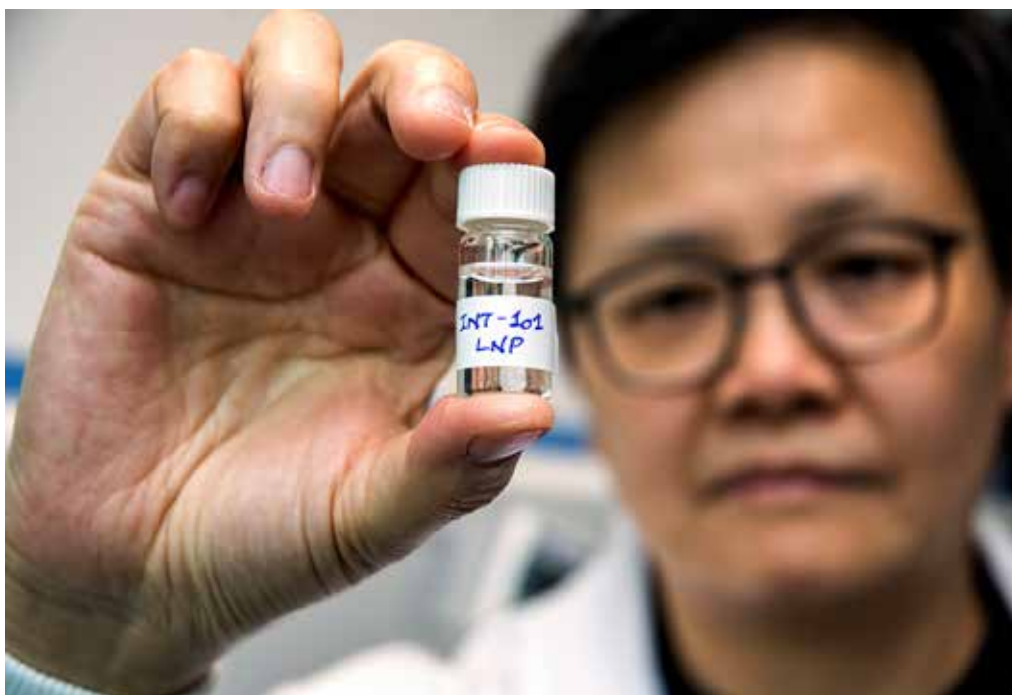
Looking ahead

The next five years will be defined by how effectively we translate research into results that impact people, the planet and our economy. Genome BC will continue to de-risk innovation, invest early and foster the collaborations that enable B.C. companies to thrive. If the past 25 years have shown us what is possible, the years ahead will demonstrate how British Columbia can lead globally, in both science and in building a resilient, driven economy. ♦

Suzanne Gill is president and CEO of Genome British Columbia

THE QUIET FORCE ADVANCING THE BIOTECH BOOM

Cluster of at least 10 companies can trace roots back
to esteemed researcher Pieter Cullis



Integrated Nanotherapeutics CEO Chris Tam is overseeing work that focuses on sending more than one medicine into the same immune cell at the same time. • CHUNG CHOW

BY GLEN KORSTROM

Pieter Cullis has helped transform B.C.'s biotech and life sciences sector, and not just by co-founding or steering a handful of companies. He has had his hand in helping nurture at least twice that number of ventures.

Some have morphed to find new life following corporate acquisitions. Others have slowly grown organically.

"We've got a couple companies on the drawing board, but it is early days," Cullis says.

B.C.'s life sciences sector was once likely best known for having companies conducting antibody research. Many industry observers and executives say they

believe it is now known around the world for its companies and research related to lipid nanoparticles (LNP) and personalized medicine.

Cullis is responsible for growth in those niches.

Having a cluster of companies within a related niche can help executives attract investors because, they say, those seeking to place capital can look to Vancouver as a one-stop shop.

It also helps companies in the cluster to recruit experienced staff while providing job security for those already working in the niche. If one company runs into trouble and lays off employees, it is possible another venture across town could be hiring staff.

Executives in the cluster can also collaborate scientifically, even if discussions are informal.

Pushing 80 years old, Cullis continues to work at his laboratory at the University of British Columbia.

His biggest claim to fame stems from work with lipid nanoparticles.

LNPs are essentially little bubbles that encase genetic material, cancer drugs, vaccine components or other items, and transport them along a specific route to specific cells without degrading along the way.

It works somewhat like a ring of security guards steering a celebrity to an event stage.

LNPs were essential for Pfizer and BioNTech's COVID-19 vaccine to be effective. That vaccine, jabbed into arms in more than one billion people, perhaps saved millions of lives.

Cullis' role was helping create the system that enabled the vaccine's active ingredient to get into human cells.

Devising the LNP platform stemmed back to him co-founding Acuitas Therapeutics with Mick Hope and Tom Madden in 2009.

During the pandemic, that company licensed

intellectual property to BioNTech and was able to cash in on demand for the COVID-19 vaccine.

"It truly was a collaborative team effort," says Acuitas CEO Madden of the scientific work at his company.

Acuitas' platform had earlier used lipid nanoparticles to deliver vaccines to cells, starting with experiments for a Zika virus vaccine in Africa.

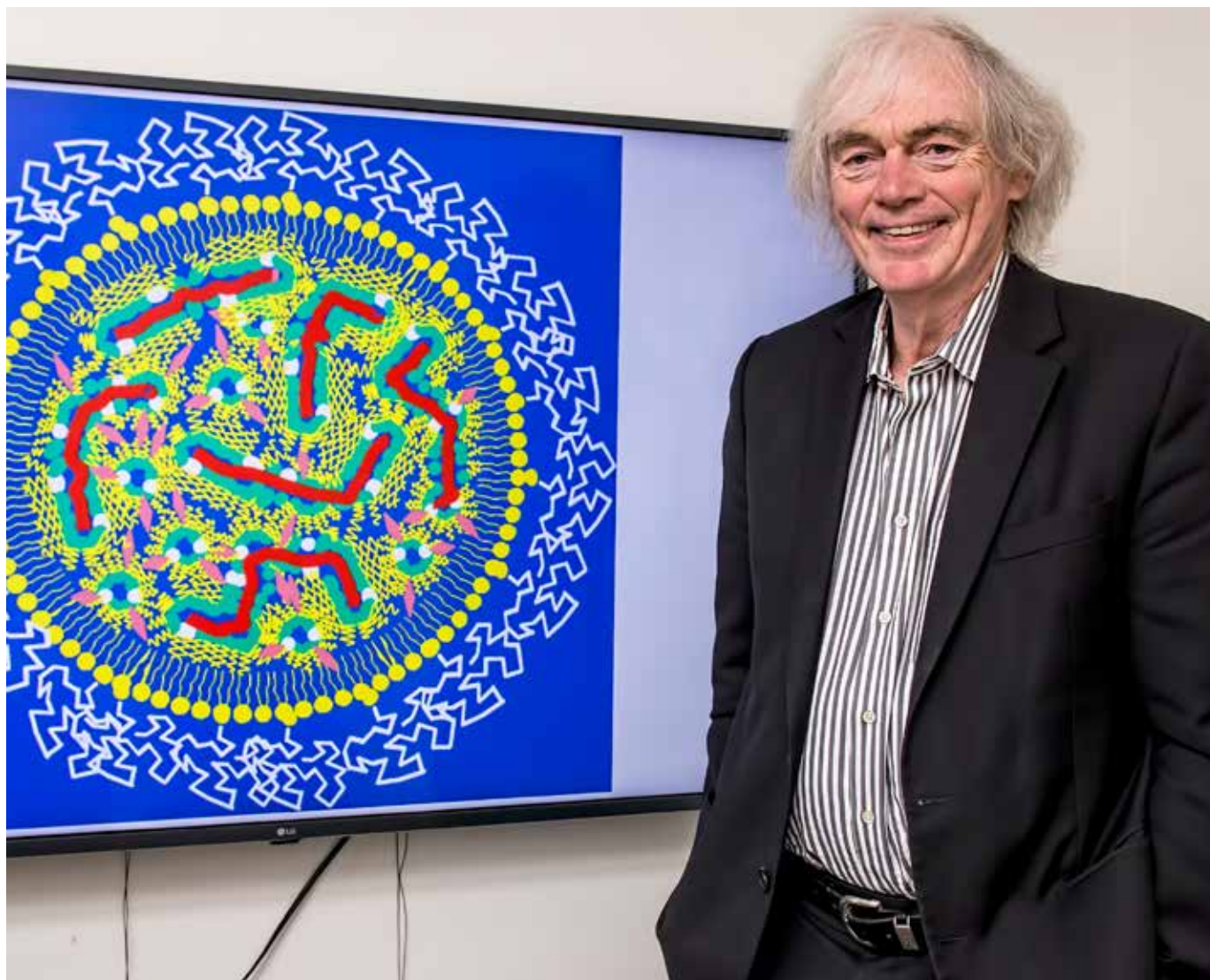
Many awards flowed from Cullis' work, and his partners in creating the COVID-19 vaccine, Katalin Kariko and Drew Weissman, won the 2023 Nobel Prize in Physiology or Medicine.

A more recent scientific breakthrough that stemmed from Cullis' work with LNPs was revealed this spring.

Doctors at Children's Hospital of Philadelphia used Acuitas' technology to help a baby become the first patient of any age to have a custom gene-editing treatment.

"We made our technology available free of charge," Madden says.

"It's a scientific breakthrough."



Pieter Cullis has helped pioneer lipid nanoparticles, a breakthrough that made COVID-19 vaccines possible. • CHUNG CHOW



NanoVation Therapeutics CEO Don Enns raised eyebrows last year when his company signed a pact to collaborate with Novo Nordisk in a deal worth up to \$600 million • CHUNG CHOW

The tot received a personally tailored intravenous infusion designed to fix a precise mutation in his DNA.

Inside the lipids that doctors injected into his body was a payload that included instructions commanding cells to produce an enzyme to edit genes. The system for editing the genes is known as CRISPR.

Madden's profitable company has about 80 staff but is not currently hiring. It has also not needed to acquire outside investment, as it has instead grown organically, he adds.

Other Vancouver companies are similar to Acuitas in that they have platforms that deliver various materials via LNPs to different places in bodies for different purposes.

These companies then join partnerships and licence their technology to clients that have specific clinical projects.

NanoVation Therapeutics, for example, is a competing company and one with its own LNP platform.

It raised eyebrows in Vancouver's life sciences community late last year for signing a pact to collaborate on up to seven programs with pharmaceutical giant Novo Nordisk in a deal worth up to \$600 million.

"If we say LNPs are the delivery platform, what's inside the LNP is called the payload," says NanoVation CEO Don Enns.

"The partner that we would typically work with, and Novo Nordisk would be one of these, would have a payload that they want delivered to a particular cell or to a particular organ within the body."

Genevant Sciences Corp. is another Vancouver company with a platform for delivering payloads.

"We don't have clinical programs ourselves," says CEO James Heyes.

"We design LNPs, and we design them for vaccines.

We design them for gene editing. Those can take place in all sorts of different cells. They can take place in liver cells or immune cells."

Cullis also co-founded Precision Nanosystems, which multinational Danaher Corp. bought in 2021 to integrate with its Cytiva division.

It similarly has a scalable LNP platform.

Vancouver companies focus on clinical innovation

Other B.C. life sciences companies focus on clinical innovations and create material to be the payloads carried within LNP platforms.

CereCura Nanotherapeutics CEO Louis-Phillippe Bernier says his UBC-based company is working on treatments for Parkinson's disease, Alzheimer's disease and some rare diseases that impact brains.

"It has always been very difficult to deliver drugs to the brain, because the brain is so well protected by the blood-brain barrier," he says.

Work so far has included using LNPs to steer specific proteins to brains in healthy mice and then later tapping spinal fluid in those brains to ensure that the protein was delivered.

His goal is to conduct human clinical trials to find treatments that slow or cure dementia and other brain diseases.

Integrated Nanotherapeutics is similarly devising a clinical solution that relies on LNPs.

Instead of sending a payload of important material via this delivery system to mice brains, its work focuses on sending more than one medicine into the same immune cell at the same time.

Its work has so far focused on animals, according to CEO Chris Tam.

"We are developing our own therapeutics right now for autoimmune diseases," says Tam. She co-founded the company alongside Cullis and

six others.

“Our lead program is Type 1 diabetes, or auto immune diabetes,” she says.

Tam adds that her 12-employee, Burnaby-based company aims to work on clinical trials with humans by 2027 and that “our end goal is to develop multiple therapeutic drugs for autoimmune diseases.”

A marketable product to treat Type 1 diabetes could ideally be available by 2032 or afterward, she suggests.

The advantage for patients using her eventual product would be that it would have the “strong potential to replace daily insulin with infrequent intramuscular injections,” Tam says.

Cullis co-founded and is a director at UBC-based SeraGene Therapeutics, which he says uses LNPs to treat blood clotting disorders, specifically those in the liver.

Some companies Cullis co-founded in the LNP space have been acquired and restructured, yet still perform work in Vancouver.

Cullis co-founded Northern Lipids, which rebranded as Transferra Nanosciences Inc. before being sold to Germany’s Evonik.

Evonik’s Vancouver division has helped produce hundreds of LNP-based formulations for use in areas such as oncology and vaccines, according to its website.

Personalized medicine

Cullis has been fascinated as much with personalized medicine as he has with LNPs.

That is why he wrote the 2014 book *The Personalized Medicine Revolution*.

Unlike what he described as “one-size-fits-all medicine,” which is reactive more than preventative, personalized medicine gives unique assessments based on a person’s DNA and individual treatment needs, he says.

Some drugs do not work well for certain people,

Cullis says.

Personalized medicine also can detect diseases or conditions a person is more susceptible to contract.

Around the time of his book, Cullis founded the Vancouver personalized-medicine ventures GenXys and Molecular You.

“The fourth-leading cause the death in North America is an adverse reaction to a prescription drug,” Cullis says. “Often that’s from a genetic cause. GenXys has a simple genetic test to see what drug would be best for you, and at what levels. So, it is really a personalized approach to taking prescription drugs.”

GenXys scientific director Martin Dawes says his company can test to see whether a person is able to quickly metabolize a pain killer, for example.

His company then produces readily understandable and jargon-free reports that help clients understand results of genetic tests.

“That’s from our software,” he says. “That’s our intellectual property.”

Over at Molecular You, chief scientific officer Robert Fraser says his 28-employee company similarly has a blood test for clients.

“It’s simple in that it requires a single draw of blood,” he says. “It is complex in that we look at almost 300 metabolism proteins. We make it simple because we use a lot of algorithms and AI tools to distill that into something that is understandable.”

Molecular You tends to work with private clinics instead of allowing people to do their own test at home and send blood samples in the mail.

It sells tests for \$1,000 online, while clinics sell the tests for various rates.

All these ventures, and likely more, can trace their origins to Cullis.

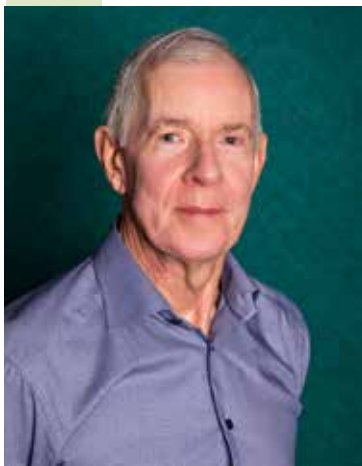
Life Sciences BC CEO Wendy Hurlburt says Metro Vancouver’s large cluster of companies in the LNP space has a huge impact on the provincial economy.

“B.C. is at the forefront,” she says. ♦



CereCura Nanotherapeutics CEO Louis-Philippe Bernier's UBC-based company is working on treatments for brain diseases such as Parkinson's disease and Alzheimer's disease • ROB KRUYT

SHAPING THE FUTURE OF GENE EDITING HERE AT HOME IN B.C.



BY THOMAS MADDEN

Saving the life of a baby through personalized gene-editing therapy may have seemed like an impossible goal even a decade ago. Thanks to brilliant research done by scientists around the world, including key components developed right here in Vancouver, it has become a groundbreaking reality.

Baby KJ, an infant with a rare, often fatal genetic disease, was recently treated using personalized gene-editing therapy. The success of this novel treatment is clear: Baby KJ went from a very sick patient with little hope for recovery to one who is now home with his parents and thriving. This groundbreaking achievement made headlines around the world, marking a new era in scientific achievement.

Saving Baby KJ was a global team effort that included Vancouver-based Acuitas Therapeutics, the Children's Hospital of Philadelphia and the University of Pennsylvania, and manufacturing partners Aldevron and Integrated DNA Technologies produced these components. The delivery system—the lipid nanoparticle (LNP) technology that carried the treatment safely to the baby's liver—was designed and manufactured by Acuitas Therapeutics, enabling the medicine to do its life-saving work.

The story of Baby KJ illustrates two important points. First, the growing clinical impact gene editing therapeutics are having; and second, the importance of collaboration in uniting complementary leading-edge technologies to achieve meaningful clinical advances.

Gene editing has historically focused on correction of rare, or relatively rare, genetic disorders. Current clinical trials exemplifying such applications include studies to correct alpha-1 antitrypsin deficiency (AATD) and glycogen storage disease 1a using base editing and transthyretin amyloidosis (ATTR) by knock-out of the disease-causing gene. However, we are also seeing gene editing applied to address diseases with a much broader incidence. Nothing illustrates this trend better than clinical studies using base editing to knock out expression of the PCSK9 gene or ANGPTL3 gene in each case to reduce the risk of cardiovascular disease. A further interesting approach is illustrated by a clinical program that seeks to cure chronic hepatitis B by targeting the viral genome within the patients' liver cells. This is a significant shift—from treating a handful of patients to tackling

diseases that affect millions worldwide.

In addition to conventional gene editing approaches wherein a patient's DNA sequence (or viral DNA) is modified, there is growing interest in applying epigenetic editing wherein gene expression is switched on or off by modifying, for example, methylation status without any underlying change to the genome itself. Preclinical studies have suggested that such epigenetic editing can produce profound and long-lasting effects on gene expression. Entry of such epigenetic editing therapies into the clinic is expected within the next two years.

The examples described above all represent therapeutics that employ LNP to deliver to the liver. An alternative delivery technology using viral vectors can potentially access other tissues but viruses have limitations around the size of the payloads they can deliver and are not suitable for repeat administration. Targeted delivery to specific cells has been an unrealized aspiration for decades but recent advances have moved it substantially closer to clinical realization. Specifically, academic-industry collaborations involving scientists at Acuitas Therapeutics have demonstrated effective targeted delivery of mRNA payloads to T-Cell, for example to allow in vivo CAR-T therapies and to haematopoietic stem cells which could allow treatment of a range of different disorders including the correction of genetic errors. A barrier to the translation of these promising approaches into the clinic has been the use of monoclonal antibodies as the targeting element. Recently however, Acuitas scientists in a collaboration with colleagues at Athebio AG have used that Swiss' company's DARPIn technology to provide cell-specific LNP targeting. DARPins or Designed Ankyrin Repeat Proteins are engineered proteins that are suitable for pharmaceutical applications.

We are already in a world where exquisitely specific gene correction can reverse the devastating impact of certain genetic disorders. How broadly this technology can be applied will only emerge over the next few years. As British Columbia continues to grow its reputation as a scientific powerhouse, we know that through collaboration from here at home to the rest of the world, we can achieve great things, helping people live healthier lives. ♦

Thomas Madden is CEO of Acuitas Therapeutics.

Biggest life sciences companies in B.C.

RANKED BY | Number of employees in 2025

Rank '25	Company	Top local executive(s)	Areas of research	Ownership	Year founded	No. staff globally '25/'24	No. R&D staff '25/'24	B.C. headcount '25/'24
1	STEMCELL Technologies Inc 1618 Station St, Vancouver V6A 1B6 P: 604-877-0713 F: 800-567-2899 stemcell.com	Allen Eaves, president and CEO	Provides cell culture media, cell separation tools and accessory reagents for cell biology research, including stem cell biology, regenerative medicine, immunology and cancer research	Privately held	1993	1,809 2,220	415 476	1,298 1,602
2	AbCellera Biologics Inc 2215 Yukon St, Vancouver V5Y 0A1 P: 604-559-9005 F: NA abcellera.com	Carl Hansen, president and CEO	AbCellera searches, decodes, and analyzes natural immune systems to find antibodies that its partners can develop into drugs to prevent and treat disease	NASDAQ: ABCL	2012	596 NA	NA NA	500 ¹ NA
3	Kardium Inc 8518 Glenlyon Pky Suite 155, Burnaby V5J 0B6 P: 604-248-8891 F: 604-304-3478 kardium.com	Doug Goertzen, president and COO, Kevin Chaplin, CEO	Cardiovascular	Privately held	2007	300 NA	NA NA	310 290
4	Redlen Technologies 123-1763 Sean Heights Drive, Saanichton V8M 0A5 P: 250.656.5411 F: NA www.redlen.com	Glenn Bindley, CEO	Redlen has created an advanced semiconductor platform for radiation imaging & detection, built on its proprietary Cadmium Zinc Telluride sensor technology and vertically integrated imaging modules	Privately held	1999	NA NA	NA NA	250 NA
5	Amgen British Columbia Inc 7990 Enterprise St, Burnaby V5A 1V7 P: 604-415-1800 F: 604-676-8349 amgen.ca	Chris Murawsky, director of research B.C.	Antibody therapeutics for the treatment of cancer, inflammation and infectious diseases	NASDAQ: AMGN	1980	NA NA	NA NA	215 NA
6	Zymeworks Inc 114 4th Ave E Suite 800, Vancouver V5T 1G4 P: 604-678-1388 F: 604-737-7077 zymeworks.com	Kenneth Galbraith, chair, president and CEO, Paul Moore, chief scientific officer	Antibody-drug conjugates and multispecific antibody therapeutics across multiple novel targets in indications that represent areas of significant unmet medical need, such as cancer, inflammation, and autoimmune disease.	NASDAQ: ZYME	2003	249 285	123 134	168 193
7	Xenon Pharmaceuticals Inc 3650 Gilmore Way, Burnaby V5G 4W8 P: 604-484-3300 F: NA xenon-pharma.com	Ian Mortimer, President and CEO	Neurology and psychiatry	NASDAQ: XENE	1996	340 283	115 115	167 170
8	Corcym Canada Corp 5005 North Fraser Way, Burnaby V5J 5M1 P: 604-412-5650 F: 604-412-5690 corcym.com	Jennifer Arntorp, senior director, operations and site leader	Cardiac Surgery - innovative solutions to support surgeons and their patients fight structural heart disease	Privately held	2021	850 799	NA NA	155 ¹ 151
9	Response Biomedical Corp 1781 75th Ave W, Vancouver V6P 6P2 P: 604-456-6010 F: NA responsebio.com	Taso Tsonis, interim CEO & CFO, Barbara Kinnaird, CEO	Rapid immunoassay diagnostics for clinical cardiovascular applications, environmental infectious disease testing and bio-threat identification	Privately held	1991	NA NA	12 14	73 76
10	ABM - Applied Biological Materials Inc 3671 Viking Way Unit 1, Richmond V6V 2J5 P: 604-247-2416 F: 604-247-2414 abmgood.com	Peter Li, CEO, Ryan Saranchuk, COO	Products span everything from CRISPR gene editing tools and viral vectors/viruses to the world's largest collection of unique cell lines and the most advanced polymerase chain reaction and next-generation sequencing technologies and services	Privately held	2004	145 115	NA NA	69 62
11	Acuitas Therapeutics Inc 6190 Agronomy Rd Suite 405, Vancouver V6T 1Z3 P: 604-227-3904 F: NA acuitastx.com	Thomas Madden, CEO	Global leader in Lipid Nanoparticle (LNP) delivery systems	Privately held	2009	3 3	NA NA	68 NA
12	Borealis Biosciences 887 Great Northern Way #210, Vancouver V5T 4T5 P: 778-650-8079 F: NA borealisbio.com	Christian Hordo, CEO	RNA medicines to treat kidney diseases and beyond	Privately held	2024	NA NA	NA NA	35 NA
12	SignalChem Lifesciences Corporation 13071 Vanier Pl Suite 230, Richmond V6V 2J1 P: 778-717-5433 F: 604-232-4601 signalchemlifesciences.com	Jun Yan, president and CEO, Zaihui Zhang, chief scientific officer	Clinical stage biotechnology company that is developing a pipeline of small-molecule drugs	Privately held	2012	45 NA	25 NA	35 NA
14	IKOMED Technologies Inc 201-1375 McLean Dr, Vancouver V5L 3N7 P: 604-258-0028 F: NA ikomed.com	Eran Elizur, CEO, Amos Michelson, chairman	Medical device technology: AEGIS is a commercially available X-ray radiation reduction device for fluoroscopy. ATMOS is a device to treat emphysema, currently in animal testing	Privately held	2011	19 18	14 13	17 18
15	Alectos Therapeutics 8999 Nelson Way, Burnaby V5A 4B5 P: 604-628-7129 F: 604-628-0137 alectos.com	Ernest McEachern, president & CEO	Neuroscience	Privately held	2007	NA NA	NA NA	15 NA
16	Ondine Biomedical Inc 1100 Melville St Suite 888, Vancouver V6E 4A6 P: 604-669-0555 F: 604-669-0533 ondinebio.com	Carolyn Cross, founder and CEO, Nicolas Loebe, president and chief technology officer	Developing and commercializing non-antibiotic, light-based therapies to prevent infections, combat antimicrobial resistance, and enhance patient outcomes across healthcare systems	TSX: OBI	1997	40 32	0 0	13 10
17	Integrated Nanotherapeutics Suite 205, 4475 Wayburne Drive, Burnaby V5G 4X4 P: 604-416-5175 F: NA integratedntx.com	Chris Tam, co-founder & CEO	Multi-cargo lipid nanoparticles for human diseases	Privately held	2015	NA NA	NA NA	12 NA
18	Burrard Pharmaceuticals 2455 Dollarton Highway, North Vancouver V7H0A2 P: 778-279-3901 F: NA burrardpharma.com	Kayhan Moayeri, CEO	Drug development, technology transfer manufacturing and formulation	Privately held	2005	NA NA	2 0	4 2

Sources: Interviews with representatives of the above firms and BIV research. NA Not available NR Not ranked 1 - BIV estimate

Business in Vancouver makes every attempt to publish accurate information in the List, but accuracy cannot be guaranteed. Researched by Tiffany Chu, lists@biv.com.

Patents
Trademarks
Copyrights
Related Litigation



Seed Intellectual Property Law Group LLP

We **advance** and **protect**
the world's most valuable
brands and innovations.

Seed IP Law Group provides Custom Crafted Intellectual Property Solutions™ to clients pursuing patents, trademarks, copyrights and other IP protection. With expertise including cell and molecular biology, AI/machine learning, immunology, chemistry, and biochemistry, Seed IP helps life sciences and chemistry clients protect, leverage, and defend their intellectual assets.



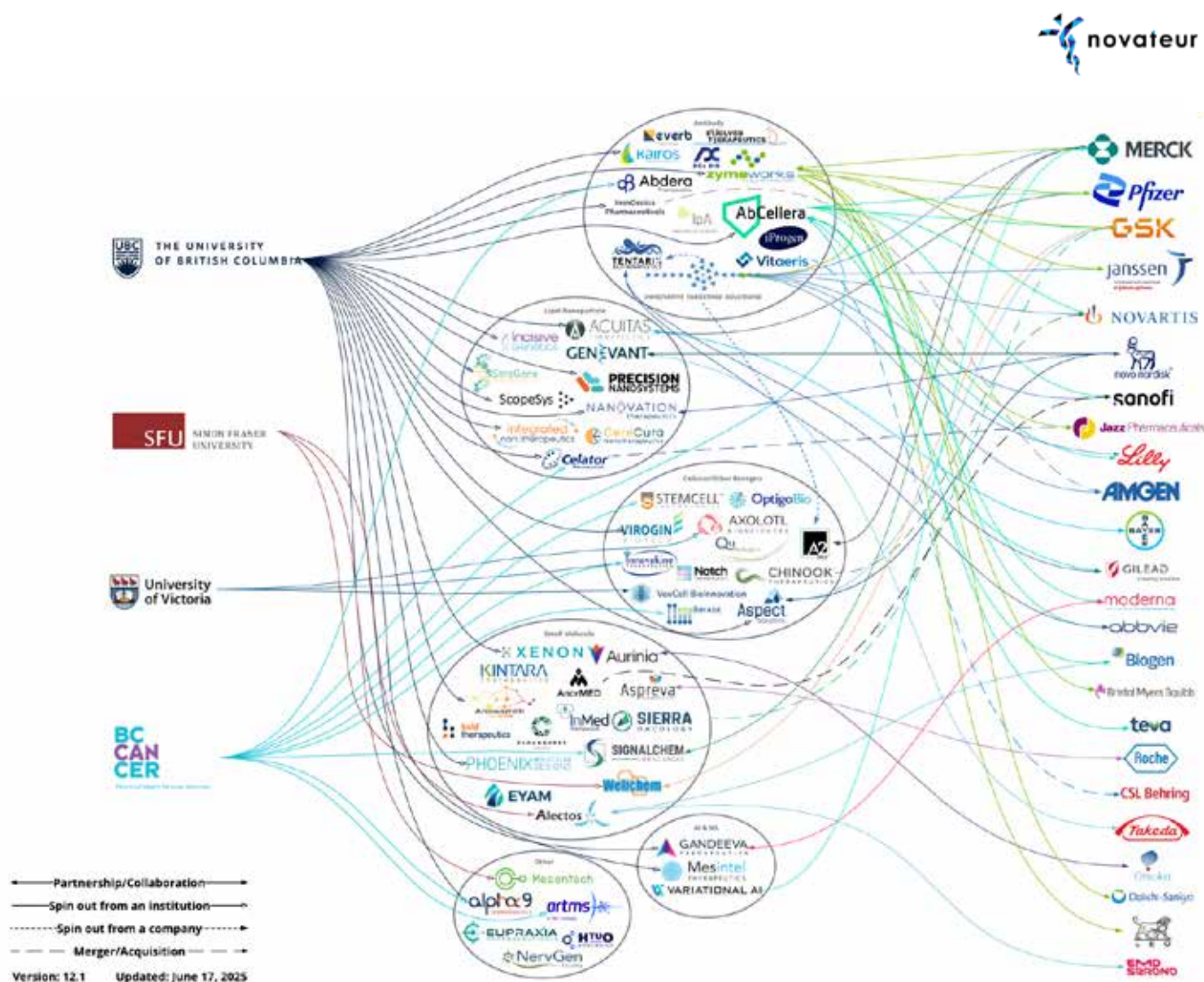
Scaling Science, Expanding Impact: B.C. Biotech's Global Partnership Momentum

B.C. biotech has quietly moved from nimble innovator to indispensable partner for the world's largest drug makers. The updated map of our therapeutics ecosystem, categorized by platforms and medicines, demonstrates how global partners have taken notice of B.C.'s world-class science.

The numbers speak for themselves. Even on a narrow lens counting only active, public big-pharma alliances over the past 15 years, deal value exceeds US\$15 billion, averaging US\$250 million per transaction. Several privately held leaders, including Acuitas and Genevant, have undisclosed terms—meaning the true total is materially higher.

The impact is visible in outcomes. Novartis's US\$3.2 billion acquisition of Chinook Therapeutics and Novo Nordisk's multi-year partnership with NanoVation Therapeutics are examples where B.C.'s homegrown platforms pair with global collaborators to reach patients worldwide.

Methodology note: The visualization includes only active, disclosed partnerships with large pharmaceutical companies over the past 15 years; it intentionally excludes biotech-to-biotech and mid-cap deals.



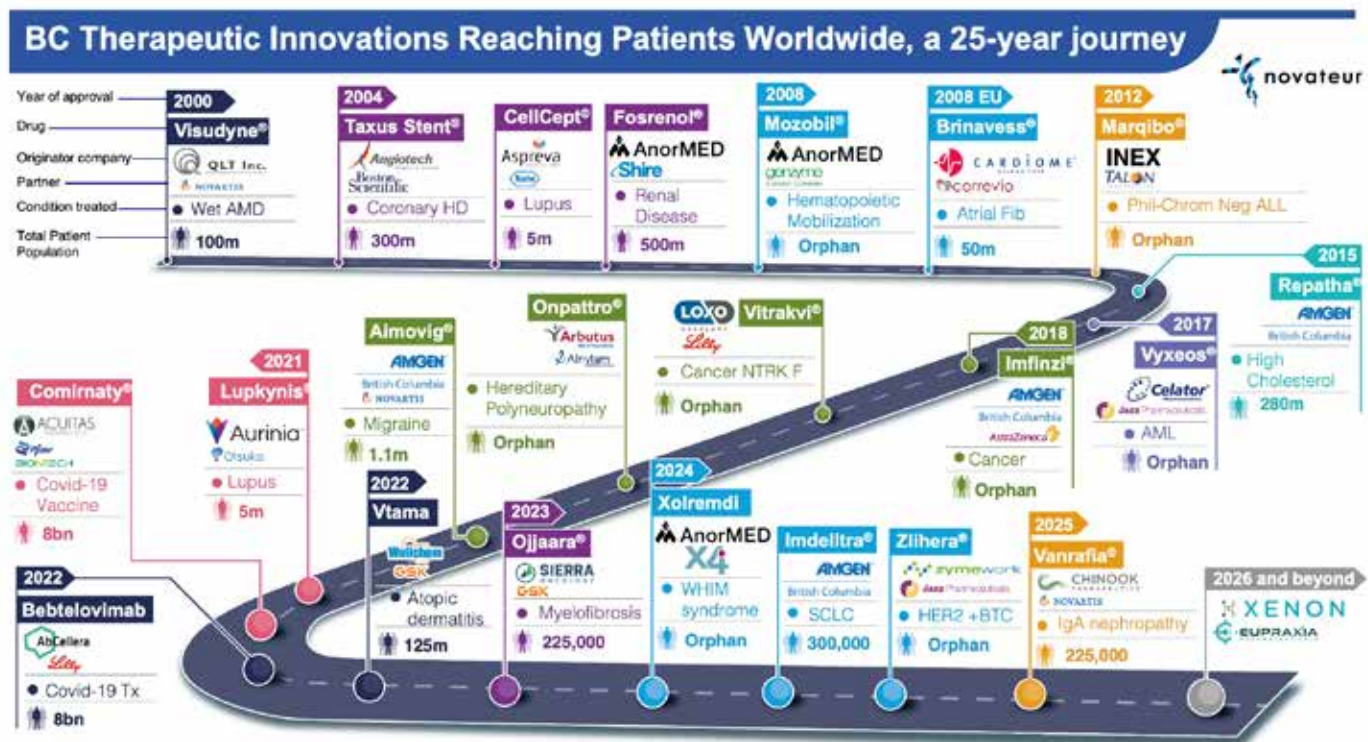
Made in B.C., Advancing Medicines That Transform Global Care

B.C.'s 25-year biotech story is one of medicines born here and delivered to the world. The roadmap runs from Visudyne and Taxus Stent to Repatha, Imfinzi, Comirnaty, Lupkynis, and a growing wave of precision and orphan therapies. These innovations target the conditions that define the global health burden including:

- coronary heart disease (~300M people)
- high cholesterol (~280M)
- renal disease (~500M)
- wet age-related macular degeneration (~100M)
- atopic dermatitis (~125M)
- atrial fibrillation (~50M)

Treatments for cancer and rare diseases also make the list. The prevalence across these indications and the potential patient impact add up to the billions.

What makes this possible is a distinctive formula: world-class science anchored in research, an entrepreneurial mindset that builds companies, and global collaborators who take B.C. breakthroughs the last mile. Partnerships include the most enabled global firms including Pfizer/BioNTech, Amgen, AstraZeneca, GSK, Lilly, Novartis, and Jazz. This shows that science developed in B.C. reliably scales from laboratory breakthroughs to international standards of care.



2024

Non-government
investments in B.C.'s
life sciences sector

Company	Financing type	Date completed	Value in CAD
BetterLife Pharma Inc	Public debt	02-Jan-24	\$405,000
Clearmind Medicine Inc.	Public equity	11-Jan-24	\$3,240,000
Alpha Cognition Inc.	Public equity	19-Jan-24	\$5,040,000
Biovaxys Technology Corp.	Public equity	01-Feb-24	\$1,103,500
Biovaxys Technology Corp.	Public equity	09-Feb-24	\$501,499
Sirona Biochem Corp.	Public debt	15-Feb-24	\$540,000
BetterLife Pharma Inc	Public debt	04-Mar-24	\$87,750
Me Therapeutics Holdings Inc.	Public equity	06-Mar-24	\$1,555,000
Qu Biologics	Applied R&D Grant	11-Mar-24	\$450,000
Eupraxia Pharmaceuticals Inc.	Follow-on	12-Mar-24	\$30,000,000
Sirona Biochem Corp.	Public equity	04-Apr-24	\$132,500
Biovaxys Technology Corp.	Public equity	03-May-24	\$333,227
Ondine Biomedical Inc.	Public equity	08-May-24	\$6,000,000
Biovaxys Technology Corp.	Public equity	10-May-24	\$279,625
Briacell Therapeutics Corp.	Public equity	15-May-24	\$13,800,000
Kardium Inc.	Private Financing	11-Jun-24	\$140,400,000
Aspect Biosystems	Government Investment (SIF + BC)	10-Jul-24	\$72,750,000
Immunoprecise Antibodies Ltd.	Public debt	16-Jul-24	\$3,000,000
Rakovina Therapeutics Inc.	Public equity	26-Jul-24	\$2,000,000
Algernon Pharmaceuticals Inc.	Public equity	02-Aug-24	\$550,800
Algernon Pharmaceuticals Inc.	Public equity	20-Aug-24	\$263,000
Borealis Biosciences Inc. (Vancouver)	Series A rounds	22-Aug-24	\$202,500,000
Briacell Therapeutics Corp.	Public equity	11-Sep-24	\$11,480,738
Biovaxys Technology Corp.	Private Debt	11-Sep-24	\$411,750
Alpha Cognition Inc.	Public debt	24-Sep-24	\$6,135,750
Biovaxys Technology Corp.	Public equity	24-Sep-24	\$150,000
Briacell Therapeutics Corp.	Public equity	01-Oct-24	\$6,750,388
Biovaxys Technology Corp.	Public equity	04-Oct-24	\$303,750
Alpha-9 Oncology	Series C	23-Oct-24	\$236,250,000

2024

Non-government
investments in B.C.'s
life sciences sector

Company	Financing type	Date completed	Value in CAD
Ondine Biomedical Inc.	Public debt	30-Oct-24	\$287,422
Eupraxia Pharmaceuticals Inc.	Public equity	31-Oct-24	\$44,000,000
Zucara Therapeutics Inc.	Series B rounds	12-Nov-24	\$27,000,000
Alpha Cognition Inc.	Follow-on	12-Nov-24	\$67,500,000
Ondine Biomedical Inc.	Public equity	15-Nov-24	\$19,200,000
ARC Medical Inc.	Private Financing	19-Nov-24	4,050,000
Briacell Therapeutics Corp.	Follow-on	11-Dec-24	\$7,492,500
Rakovina Therapeutics Inc.	Public equity	13-Dec-24	\$4,050,000
Biovaxys Technology Corp.	Public equity	18-Dec-24	235,250
Borealis Biosciences	Series A Extension	19-Dec-24	\$40,500,000
Proton Intelligence Inc.	Seed financings	24-Dec-24	\$9,382,500
Total			\$970,111,949

Note: This list was provided by Novateur Ventures Inc.

Making a Meaningful Difference

Behind every award is a team that makes it possible.

Thank you to our extraordinary employees whose dedication has made us a two-time Company of the Year winner and fuels our mission to make a meaningful difference for patients with difficult-to-treat diseases.

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VANCOUVER - BELLEVUE - REDWOOD CITY - SINGAPORE - DUBLIN



The Perils of Double Patenting in Canada

By Christina Kwok and Leslie Chan

The issue of double patenting presents challenges for patent applicants seeking patent protection in Canada. The decision of the Federal Court in *NCS Multistage Inc. v. Kobold Corporation*, 2023 FC 1486 (“*NCS Multistage*”) further complicates the landscape, making it more difficult for patent applicants to navigate double patenting law and practice in Canada.

In Canada, granted patent claims can be invalidated on the basis of double patenting if the claims of the later patent are contemporaneous with the claims in the earlier patent, or if the latter is an obvious and uninventive extension of the former. While U.S. patent law also has a double patenting doctrine, terminal disclaimers are available in the U.S. to overcome a non-statutory (obviousness-type) double patenting rejection. A terminal disclaimer is a statement in which an applicant disclaims any terminal part of the term of a patent. Patent applicants therefore have the opportunity to file one or more continuing applications in the U.S. to pursue additional patent protection that is not obtained in the original patent. Such an opportunity is not available in Canada.

Canadian jurisprudence around double patenting



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creates uncertainty for patent applicants. Under section 36(1) of the *Patent Act*, R.S.C., 1985, c. P-4, a patent must be granted for one invention only. Where an original application includes claims that cover multiple inventions, the applicant may voluntarily divide the application (section 36(2) of the *Patent Act*), or be required to divide on the direction of the Commissioner of Patents (section 36(2.1) of the *Patent Act*). A forced divisional patent thus arises where the Commissioner directs the applicant to divide, and a voluntary divisional arises where an applicant voluntarily divides the application.

According to established jurisprudence, forced divisional patents are immune from double patenting attacks. However, there is divergence under Canadian case law as to the type of direction from the



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Patent Office which would be required in order for a divisional to be considered as a forced divisional patent. The Federal Court in *NCS Multistage* concluded that a divisional application that is filed in response to a lack of unity of invention objection raised in an examiner's report is not sufficient to constitute a forced divisional. The Federal Court unfortunately did not provide guidance on what would constitute a forced divisional but merely states that subsection 36(2.1) enforces a division. In an examiner's report which raises a lack of unity defect, the examiner typically refers to subsection 36(2) of the *Patent Act* only, not to subsection 36(2.1).

Where a Canadian patent application describes a plurality of inventions and the applicant wishes to obtain patent protection for more than one of those inventions, applicants should consider attracting a lack of



unity of invention objection by presenting to the Patent Office a claim set with claims directed to all of those inventions. Excess claims fees are applicable for each claim over 20, regardless of whether the claim is an independent claim or a dependent claim. Applicants could consider filing a claim set which focuses on the independent claims, with a minimal number of dependent claims. In response to the decision in *NCS Multistage*, a strategy would be to prompt a referral to the Unity of Review Board (URB) to obtain the desired direction under section 36(2.1) of the *Patent Act* before dividing the application. This unfortunately increases examination costs and delay.

Conclusion

The law and practice on double patenting in Canada present unique challenges for companies seeking patent protection in Canada. You will want to work closely with Canadian IP counsel to navigate this issue.

Our lawyers would be pleased to discuss your company's patent strategy, and to explore options to build a patent portfolio which best aligns with your company's business strategy.

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Clinical Milestones:
Featured
LSBC Member
Achievements

Company	Month	Milestone
Microbion	January	Microbion's Pravibismane Granted Second FDA Orphan Drug Designation for the Treatment of Non-tuberculous Mycobacterial (NTM) Infections
PharmAla	January	PharmAla Granted a Controlled Drugs & Substances Dealer's License by Health Canada
Eupraxia	February	Eupraxia Pharmaceuticals Initiates Phase 3 Development Program for EP-104IAR
Filament Health	March	Filament Health Announces Shipments Of Botanical Psilocybin To Four Countries For Clinical Investigation
Merck Canada	March	FDA Approves Merck's WINREVAIR™ (sotatercept-csrk), a First-in-Class Treatment for Adults with Pulmonary Arterial Hypertension (PAH, WHO* Group 1)
Canary Medical	May	Canary Medical's Smart Spine Lumbar Cartridge Granted FDA "Breakthrough Device" Designation
Clairvoyant Therapeutics	May	Psilocybin Clinical Trial Sponsored by Clairvoyant Therapeutics Reaches 90% Randomization
Jazz Pharmaceuticals	May	Zanidatamab Granted Priority Review for HER2-Positive Metastatic Biliary Tract Cancer
Kardium	May	Kardium announces positive 1-year outcomes for PULSE-EU trial with the Globe® System, showing promise for improving the treatment of atrial fibrillation
Bold Therapeutics	June	Bold Therapeutics Announces Positive Phase 2 Safety and Efficacy Results for BOLD-100 in Advanced Metastatic Biliary Tract and Gastric Cancers at ASCO 2024
Abbvie	July	AbbVie's EPKINLY™ Receives First-Ever Time-Limited Reimbursement Recommendation by Canada's Drug Agency
Gilead Sciences	July	Health Canada Approves Trodelvy® (SACITUZUMAB GOVITECAN) in Pre-treated HR+/HER2-Metastatic Breast Cancer
Sustained Therapeutics	July	Sustained Therapeutics Announces First Patient for Cancer Trial
Abdera Therapeutics	September	Abdera Therapeutics Announces FDA Orphan Drug Designation for ABD-147 for the Treatment of Neuroendocrine Carcinoma
Pfizer	September	Pfizer Canada and BioNTech Receive Health Canada Approval of Omicron KP.2 Variant Adapted COVID-19 Vaccine
Sonic Incytes	September	FDA Grants 510(k) Clearance to Sonic Incytes' Velacur® Determined Fat Fraction (VDFF), a breakthrough for patients with MASLD and MASH
Vertex	September	Vertex Announces Health Canada Acceptance of New Drug Submission for Vanzacaftor/Tezacaftor/Deutivacaftor, a Next-in-Class Triple Combination Treatment for Cystic Fibrosis
Lexaria	October	Lexaria's GLP-1 Human Pilot Study #3 Begins Dosing
Zymeworks	October	Zymeworks Announces First Patient Dosed in Phase 1 Clinical Trial Evaluating ZW171 in Advanced Mesothelin-Expressing Cancers
GSK	November	Ojjaara (Mometinib) Approved in Canada for the Treatment of Myelofibrosis in Adults who have Moderate to Severe Anemia
Moderna	November	Moderna's mRNA RSV Vaccine Receives Health Canada Approval For Adults Aged 60 Years And Over
Novo Nordisk Canada	December	Health Canada Approves Wegovy® (Semaglutide Injection) to Reduce the Risk of Non-fatal Myocardial Infarction
United Therapeutics	December	United Therapeutics Announces Successful World's First UKidney Transplant

Note: This list was compiled by Life Sciences BC from publicly available information, with consultation from Michael Smith Health Research BC.

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The Data Gap That's Holding Back AI in Life Sciences

Everyone's racing to adopt AI. Few are fixing the data that makes AI scalable, compliant and worth the investment.



By Ale Brown,
CEO of Kirke Consulting

I once worked with a biotech company eager to optimize operations by applying AI to clinical trial site selection.

The plan was smart: instead of relying on spreadsheets and intuition, they would use machine learning to combine investigator experience, patient population data, and past trial performance. Leadership was aligned, budgets approved, and everyone expected faster, more confident site

selection that would satisfy Clinical, Finance, Compliance, and Data teams.

The foundation looked strong. They were ready to consolidate data from internal systems like the eTMF and CTMS alongside vendor sources such as Medidata and Veeva in order to train an internal AI tool to streamline site selection.

But six months in, the project collapsed. Compliance flagged major data discrepancies: investigator performance data in Clinical's CTMS didn't match Finance's cost records. EDC subject data didn't align with what the Data Management team had. Every function had its own "truth." When compliance asked which data would be the source of record, no one could agree. The pilot ended abruptly, taking months of work and significant investment with it.

This wasn't a failure of AI. The algorithms worked fine. What failed was the foundation: the data. Without a single trusted version of truth, the most promising AI pilots in life sciences are doomed to stall.

Unfortunately, this scenario is more common than most admit. Studies show that 68% of enterprise data goes unused (Seagate/IDC), only about 5% of life sciences AI pilots progress beyond "pilot purgatory" (McKinsey), and bad data costs organizations an average of \$12.9 million annually (Gartner). The losses come from inefficiencies, errors, and missed opportunities. In life sciences, that means delayed trials, wasted investment, and slower delivery of therapies to patients.

So how do we break this cycle? We achieve success with organizations using what I call The Kirke approach, focusing



on three steps: Align, Assess, Activate.

- **Align:** Every function must speak the same data language. If Clinical, Finance, and Commercial all define "enrollment rates" differently, AI will only multiply the confusion. Alignment means agreeing on definitions, sources of truth, and consistent measures.

- **Assess:** Be brutally honest about data maturity. Where is data quality weak? Where do teams lack trust? I've seen finance groups spend weeks reconciling inconsistent trial cost data: a hidden inefficiency that bleeds time and money. If your day-to-day processes are messy, your AI pilots will inherit the same flaws.

- **Activate:** Clean, trusted data must be put to work. Dashboards aren't enough. Activated data fuels decision-ready insights, enabling AI to deliver measurable impact, that translates into faster site selection, reduced costs, and accelerated timelines.

AI is not here to replace the human brain; it's here to give us leverage. In life sciences, this matters deeply. Every delay in a trial is another day patients wait for therapies they urgently need. If we close the data gap, AI can help us shorten trial timelines, reduce costs, and deliver life-changing therapies faster.

This is the true promise of AI in life sciences. And this is the breakthrough that really matters.



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