

Making Molecules

Dalton Chemical has the knack for creating elusive molecules

by Tod Hoffman

"Truly innovative things are going on here," enthuses Peter Pecos, President of Dalton Chemical Laboratories. He co-founded the company in 1986, immediately upon earning his Master's degree in synthetic organic chemistry at Toronto's York University.

Privately owned Dalton prides itself on putting expertise and experience to use when challenged with its clients' complex chemistry problems. "Typically, a company comes to us when their own chemists hit a snag and they need outside eyes to take a fresh look," explains Pecos. "Too many companies come at questions from a pre-determined perspective, based on organizational structure, or just how they're accustomed to doing business. We evaluate the chemistry without bias. By brainstorming with the client and applying our knowledge, we can achieve novel solutions."

Dalton, he goes on, really stands at the confluence of science and art, where creativity results in breakthroughs. Its forte is a great depth of understanding about molecules and, from that, an innate ability to synthesize them. As a result, the company's molecule list and client base has grown markedly over the years. From a start-up of five, Dalton now boasts ninety employees. Sales in 2002 will top \$10 million, an increase of 200% since 2000.

The company's capabilities as a contract manufacturing organization extend from producing molecules, to pre-clinical testing and clinical phase testing, all the way to commercialization and regulatory affairs. Dalton counts among its successes the creation of several fleeting metabolites that are toxic to the liver; they had formerly proven extremely difficult to isolate. Dalton has made these in multi-gram quantities that allow them to be studied.

The company has also created sophisticated polymers that aren't subject to changing shape and are, therefore, adapted to exotic research such as that conducted in the weightless environment of space. As well, Dalton has focused on custom peptides and modified peptides that have been utilized by research and academic communities in Canada and around the



Peter Pecos
President

world. Its synthetic DNA has proven essential for work on genetic-based therapeutics and antisense drug technologies. Some of the molecules employed in second and third generation antisense therapies hold potential to emerge as virtual miracle drugs in the fight against cancer.

Dalton is making Virulizin(r), a semi-synthetic extract derived from a natural source for Lorus Therapeutics. Virulizin stimulates the immune system to fight pancreatic cancer, a disease that is invariably terminal. This same drug is currently on the market in Mexico for use against malignant melanoma, and is undergoing clinical trials in North America.

Some of the company's molecules have been used to test theories as to how they might be manipulated chemically to arrive at new derivatives. Dalton has had a six year research contract with Elan Pharmaceuticals to explore treatment possibilities for neuro-degenerative conditions.

Last year Dalton undertook a \$6 million renovation and expansion of its 42,000 square foot Wildcat Road facility. It has state of the art cGMP manufacturing suites for small molecules, peptides, and antisense molecules. It also has sterile filling capabilities that allow it to fill as many as 3000 vials per hour for human injection.

Pecos believes in the value of his employees and offers them extensive in-house training and opportunities to grow as a team. "We expend great effort trying to understand how individuals achieve scientific excellence, and we apply what we learn to achieve best practices," he says.

Because out-sourcing continues to grow in the pharmaceutical sector, Pecos is looking for further expansion into the American market, projecting growth to 150 employees and revenues of \$15 to \$20 million within three years.

"We're already doing work for some of the world's leading pharmas, and we have a strong existing client base," he asserts. "Word of mouth has brought customers to us because, time and again, we've proven we can do the job." □

The website: www.dalton.com