

Money talks

From business angel funding for start-ups and spin-outs all the way through to venture capital for scales-ups, Scotland has the resources and the international connections to help life science companies to grow



When you're an entrepreneur, you never know when inspiration will strike: you wake up in the middle of the night with a brilliant idea for a new drug or medical device or other life sciences innovation.

You quickly grab a pen and a piece of paper to scribble down your idea before drifting back off into a satisfied sleep. But then you wake up the next day and begin to ask yourself: "How am I going to fund this idea?"

When it comes to raising finance, Hugh Griffith has "been there, done that, got the t-shirt". As the chief operating officer at Bioenvision, he led the company's operations based in Edinburgh from the start-up stage all the way through to a NASDAQ listing in New York, with the business's market capitalisation soaring from US\$22 million to US\$345m in the space of just five years, before it was taken over by Genzyme in 2007. In the process, the firm developed the first new medicine specifically for the treatment of childhood leukaemia in more than 30 years. Now, Griffith is on the investment trail once again at NuCana, an Edinburgh-based company that is developing drugs to tackle hard-to-treat cancers. The firm is exploiting its 'ProTides', which are designed to overcome the key cancer resistance mechanisms associated with chemotherapy.

NuCana's first ProTide, called Acelarin, is already being used in a phase-III clinical study for pancreatic cancer that will involve 30 centres throughout the UK. It is also entering phase-II studies for ovarian cancer and phase-I studies for cancer of the bile duct.

Its second ProTide, known as NUC-3373, has entered phase-I clinical studies in Oxford for bowel cancer and is about to be tested at the Beatson West of Scotland Cancer Centre in Glasgow. A third ProTide is expected to enter clinical studies next year.

"You don't have to have all of the capital available on day one," Griffith says. "When we

started NuCana, myself and the management team financed the first three funding rounds using our own money and then funding from friends and family.

"We launched the company in 2008, but it wasn't until 2011 that I was confident that the business was ready for venture capitalists (VCs) and institutional investors, when we raised US\$10.4m. We completed a second VC funding round in 2014 for US\$57m."

Griffith chose to setup NuCana in Edinburgh because the city is his home, but he was spurred on by the Scottish capital's international transport links, allowing him to travel to meet collaborators and investors.

"When it comes to setting up a company, Scotland's business angel community is as good as any in the world," he says. "In Scotland, we have business angels who have experience of

investing in life science companies and who understand the risks involved.

"Scottish Enterprise's Scottish Investment Bank has also been instrumental in developing the start-up community, especially through its co-investment fund, which allows it to provide finance alongside business angel syndicates.

"When it comes to taking on board VC funding then Scottish companies need to consider looking overseas to places like the United States, Europe or the Far East. But that's no bad thing – it makes a company more international in its outlook.

"Only 2% of the world's healthcare market is in the UK and so if you want to make the most of the opportunities available then you need to look overseas for customers – so there's no harm in looking abroad for investment too. If you have good technology that addresses an unmet



Alan Wise



Hugh Griffith

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medical need, a strong intellectual property position and you're prepared to travel then you'll always be able to find investment."

One such investor with international experience is Sinclair Dunlop, who worked in the finance community in the United States before returning to his native Scotland. In 2014, Dunlop and his team raised £48 million to launch a venture capital fund to provide start-up funding for early-stage, high-growth companies that target areas with an unmet medical need.

Financial backers for his Epidarex Capital vehicle consist of the European Investment Fund, Scottish Enterprise through the Scottish Investment Bank, Strathclyde Pension Fund, pharmaceuticals giant Eli Lilly and Aberdeen, Edinburgh and Glasgow universities, along with King's College London and three family office investors.

So far, the European arm of Epidarex – which also runs a similar fund in the United States – has invested in eight companies. Five are spin-outs from universities: Edinburgh Molecular Imaging; Glasgow-based diabetes specialist Caldan Therapeutics; Clyde Biosciences of Glasgow, which is testing how drugs affect the heart; Sirakoss, a synthetic bone graft developer from Aberdeen; and Mironid Therapeutics from the University of Strathclyde.

The other three portfolio companies have an interesting difference – they emerged from industry rather than academia: Brighton-based drug developer Enterprise Therapeutics was founded in February 2015, while Topas Therapeutics of Hamburg was spun-out from Frankfurt-listed drug developer Evotec and Edinburgh-based Nodthera has been created using technology developed by Polish clinical research firm Selvita. Dunlop chose to launch Epidarex in Scotland because of its world-class universities, but he thinks the life sciences community needs to be more positive when it comes to news about takeovers of indigenous businesses. "On occasions in the past when we've seen an acquisition of a Scottish company, we are sometimes too quick to see that as a 'glass half-empty' result, when actually it could be a 'glass half-full' result," he recently told BQ Scotland magazine. "If we were in California or Massachusetts then there would be much less angst around those types of transactions.

"In fact, what we could do is see that as a 'half-full' outcome because it is in fact a validation of

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the quality of the fundamental, research from which we're building these companies and it's a validation of our ability to build those companies to a point at which you can generate a positive return – in every sense – for all concerned. If you can't demonstrate to the outside world – and in particular to those very same big institutional investors whose capital we need in Scotland – that you can make a profit by investing in Scottish companies then we're not going to break out of this cycle of under-realising our immense potential.

"In the most-active hubs of technology and innovation, companies are changing hands and there's merger and acquisition activity every day of the week. That's seen as a sign of success. The two aren't mutually exclusive. The key is to get more private sector activity and specifically more venture-backed, technology-driven small and medium-sized enterprise private sector activity. That's the key. From that, the broader economic benefits will flow."

The finance available from Scottish Enterprise's Scottish Investment Bank – including co-investment and venture funding – has been one of the factors that has helped to attract a number of life sciences companies to Scotland. In 2010, former healthcare sector fund manager Peter Trill and University of Oxford biochemist Tom Brown raised £9.6m in Series A funding, including £2m from the Scottish Venture Fund, to setup TPP Global Development. Brown and Trill chose Edinburgh as the home for TPP – which has since changed its name to IOmet Pharma – due to the investment available and the pool of talent in Scotland. The company was able to recruit a number of staff from pharmaceuticals company MSD, which closed its research centre at Newhouse in Lanarkshire

at the end of 2010. "IOmet has an interesting model because we're a virtual company," says Alan Wise, who joined the business five years ago as head of biology and is now its chief executive. "We are an office-based operation and we outsource all of our 'wet work' to professional contract research organisations (CROs) or to our academic partners."

IOmet was set up to identify novel drug targets that it could then develop and sell on to other businesses, which in turn would take the drugs into clinical studies. The company began to specialise in molecules that target key enzymes involved in controlling the body's immune response and that it hopes can be developed into drugs to treat cancer.

"We raised a Series B round of top-up investment in 2014, which came from our existing shareholders," says Wise, who spent 12 years at GlaxoSmithKline before joining IOmet. "That was a really important step because it showed the faith that the investors had in the science behind our drug targets and it allowed us to accelerate our development work during 2015."

In January 2016, IOmet was bought by MSD, the European arm of American pharmaceuticals giant Merck & Co, with Trill and Brown leaving the business as part of the takeover deal.

"Since the acquisition, MSD has used IOmet as a platform to expand its base here, appointing John McNeill as its country lead for Scotland," Wise adds. "MSD has recognised our expertise and it's been a very positive experience.

"We collaborate with laboratories throughout Europe, the Far East and the United States, so we could be based anywhere. But MSD recognises the pool of talent that's available here in Scotland." ■