

BUSINESS

Ticking the right boxes

The humble tick isn't often viewed as an ally of human health (see page 524), but one British biotechnology company is banking on its hidden charms.

Reading-based Evlutec holds patent rights on a number of proteins found in the saliva of ticks, and some are already showing clinical promise, particularly for the treatment of allergies and inflammation.

The proteins' potency derives from a tick's need to evade detection while it feeds on its animal host. Its saliva contains a number of molecules that suppress its victim's immune response, allowing the tick to feed for days unnoticed.

"It's the tick's stealth technology," says Mark Carnegie Brown, Evlutec's chief executive, adding that it's a technology that is yielding molecules with therapeutic potential.

The story began almost 20 years ago at a laboratory in Oxford run by the Natural Environment Research Council (NERC), when researchers led by virologist Patricia Nuttall started investigating how ticks use proteins in their saliva to suppress the immune system of their hosts.

Nuttall, who now directs the NERC's Centre for Ecology and Hydrology in Swindon, soon discovered an array of proteins of interest. "These molecules have been refined by millions of years of evolution," she explains. "There are no toxicity problems, they work on a range of animals, they aren't fragile — and there are an awful lot of them."

One of the most promising proteins, dubbed rEV131, binds to histamine, which, when produced by the body in excessive amounts, is associated with allergies and inflammation. Anti-inflammatory drugs tend to work by blocking one of at least four different histamine receptors in the body, but Nuttall describes rEV131's behaviour as "much more efficient". The tick protein grabs hold of the histamine itself and so stops it binding to the receptors.

The commercial potential seemed clear, and in 1998 Evlutec emerged as the first spin-off company from the NERC, backed by 3i, the London-based venture-capital group. The patents were held by the NERC, rather than

the scientists, and the company was set up separately from the research team — although Nuttall served as a non-executive director from 2000 to 2003, and is still advising the company on the possibility of using the proteins to vaccinate animals against ticks.

Last year, rEV131 was shown to be effective for treating hay fever in a second-stage clinical trial run by Paul Ratner, an allergist who runs Sylvana Research in San Antonio, Texas. Evlutec plans to run a second phase II trial this year to determine the right dose and frequency

for the therapy. This stage will be critical to the company's prospects for making it big,

says Michael Aitkenhead, an analyst at Bridgewell Securities in London. Last September, Bridgewell organized Evlutec's second round of financing in 2005; between them, the two rounds raised nearly £20 million (US\$36 million) from institutional investors.

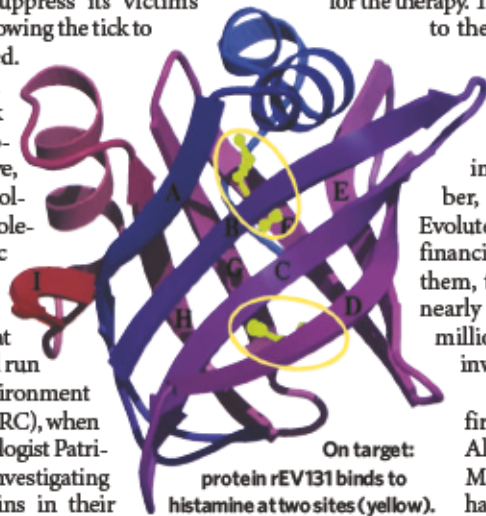
Evlutec, which was first listed on London's Alternative Investment Market in August 2004, has a small core of just 11 full-time staff. It subcon-

tracts out many operations including the running of clinical trials, and has enough cash to keep going for another 18 months as it searches for a partner to take rEV131 through the large, phase III trials needed for regulatory approval.

The tick protein is also in trials for suppressing inflammation after cataract surgery and for treating 'dry eye'. But it is only one of 16 proteins from tick saliva that Evlutec holds patents on or applied to patent; some show promise in animals for treating heart attacks and autoimmune diseases. The firm also has a partnership with animal-health company Merial of Duluth, Georgia, to use one of the proteins as a vaccine against both ticks and tick-borne diseases in cattle.

Carnegie Brown says he jumped at the chance to join the young company in 2003 "for the opportunity to build a business with some really fascinating technology". The company has enough funds to do at least three clinical trials in 2006, he says: "There's a whole series of strings to our bow." ■

Colin Macilwain



On target:
protein rEV131 binds to
histamine at two sites (yellow).

EVLUTEC

IN BRIEF

FEW OFFERS The number of initial public offerings for companies backed by venture-capital groups in the United States fell last year from 67 to just 41, reports VentureOne, a division of Dow Jones. The level of activity is down drastically not just from the peak level of 250 offerings in 1999, but from normal levels before then. Low investor interest and a regulatory clampdown on Wall Street are being blamed for the slide.

CELTIC TIGER Amgen, one of the world's largest biotechnology companies, has announced plans to build a US\$1-billion manufacturing plant in Cork, Ireland. The California company says that more than 1,100 people will be employed at the new plant, and that Ireland had been selected for its growing pharmaceutical industry and its low corporate taxes. It also plans to open a new clinical research facility at Uxbridge, near London.

NUCLEAR READY Toshiba is set to purchase Westinghouse, the world's largest builder of nuclear reactors, for about US\$5 billion. The acquisition is the largest-ever foreign purchase by the Japanese consumer electronics group. And the purchase price is almost double what was anticipated when UK-based BNFL put the Pittsburgh company up for sale last year. This reflects growing expectations that the construction of nuclear power plants is about to see a revival worldwide after decades in the doldrums.

UP FOR SALE Biotechnology company ImClone Systems of New York has appointed the investment bank Lazards to find it a partner or a buyer. At the same time, its acting chief executive is being replaced, for the second time in three months. The company, whose main product is the cancer drug Erbitux, has been in trouble since its former boss Samuel Waksal was jailed for insider trading in 2003. Analysts caution that, as a biotechnology company whose fortunes largely hinge on a single product that is facing increasingly stiff competition, ImClone may struggle to find a buyer.