

AusBiotech profile: Plasvacc

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We profile Queensland veterinary biotech Plasvacc, which develops plasma products as an alternative to antibiotics.

Kate McDonald 18/10/2007

The increasingly dire situation that is extreme drug resistance (XDR) is making many in the medical research world search around for alternatives to antibiotics.

One promising area of scope is plasma therapy, widely (although poorly) used before the advent of antibiotics and a popular therapy for companion animals and livestock.

Queensland company Plasvacc has been developing veterinary plasma therapies since 1996 and manufactures, distributes and exports a range of plasma products for horses, dogs, cattle and camelids, mainly alpacas but the odd camel as well. It also supplies anti-venom plasma for snake bites to CSL for both human and veterinary use.

The company owns one farm in Australia and one in California to keep and care for its donor animals, including three camels who live at Rigby farm near Kalbar in southern Queensland and which are described by the company's co-founder and chief scientific officer Dr Ross Wilson as "delightful" animals.

"One is a gentleman and I can catch him and lead him anywhere by the beard, and we have two cows that are a bit less sociable," Wilson says. "They are not unreasonable animals but you might have to wrestle with them a bit."

Plasma therapy is widely used in veterinary applications and Plasvacc has developed a thriving business producing hyperimmune plasma products to vets throughout the world. And there is a simple reason for it: "there is resistance to antibiotics," Wilson says. "With plasma therapy you don't get resistance."

Now, Plasvacc is looking into the human sphere. "We think that with modern fractionation techniques we can produce antibodies that will treat a lot of very difficult to treat diseases in humans, especially with extreme drug resistance and infections after surgery," he says.

"It's not just drug resistance or multiple-drug resistance, it's now extreme drug resistance. We think antibodies would make a big difference in these cases.

"For someone having elective surgery like a joint replacement, you'd just get a shot of these antibodies before they go under. The antibodies will work for three weeks but they work instantly and if that's going to stop a joint implant from getting infected and causing problems for the next two years until they have to do the surgery again ... And anything to save lives is important, of course."

The difference for Plasvacc over other plasma suppliers is that it is researching using beasts as donors, not humans. "We think we can produce a lot more antibodies from a beast - a cow or a horse - and with the fractionation techniques that are getting better all the time, we can fractionate the ingredient out of the plasma such that it's safe to use on other species.

"If you get bitten by a snake now in Australia and you get anti-venom, you get plasma that is produced from horses. If you get bitten by a snake in America the antibody is based on sheep plasma. Now, at this stage there are still some reaction problems in giving that plasma to patients but the risks are much lower than the risk of not having the anti-venom at all. But we think we can make those products a lot safer if we could get some time and some research money."

Plasvacc is exploring the possibility of going public in the near future and listing on the stock exchange. It is also exploring some other avenues to transform itself from a plasma company into a transfusion medicine company.

Meanwhile, the potential donors are waiting, Wilson says. "We've got the horse sitting here to get started on these things but it's just a question of time for our academic staff to do it."