

Cancer drug destroys tumours in pre-clinical trials

October 9 2014, by Kim Lyell



Scientists at QIMR Berghofer Medical Research Institute have used an experimental drug produced from the seeds of a rainforest plant to cure solid cancer tumours in pre-clinical trials.

The study led by Dr Glen Boyle at QIMR Berghofer's Cancer Drug Mechanisms group found a single injection of the drug EBC-46 led to rapid breakdown of tumours in a range of human tumour models.

Dr Boyle says the findings of the pre-clinical trials at QIMR Berghofer suggest the drug could be effective in human patients.

"We were able to achieve very strong results injecting EBC-46 directly

into melanoma models, as well as cancers of the head, neck and colon," Dr Boyle said.

"In most cases the single injection treatment caused the loss of viability of cancer cells within four hours, and ultimately destroyed the tumours."

Dr Boyle says EBC-46 works in part by triggering a cellular response which effectively cuts off the blood supply to the tumour.

"In more than 70 per cent of pre-clinical cases, the response and cure was long-term and enduring, with very little relapse over a period of 12 months."

EBC-46 is a compound extracted from the fruit of the Blushwood tree which is found in north Queensland rainforests.

EBC-46 was discovered by the Queensland biotechnology company EcoBiotics.

The [drug](#) is being developed as a human and veterinary pharmaceutical through EcoBiotics' subsidiary company QBiotics.

The [experimental drug](#) has been used by practising veterinarians to successfully destroy or shrink tumours in pets – including dogs, cats and horses.

QBiotics is currently undertaking formal veterinary clinical trials with EBC-46 in Australia and the USA.

A final regulatory approval is still required for a human Phase I clinical trial.

Dr Boyle says QIMR Berghofer is keen to pursue further research to

determine if EBC-46 could be made more effective.

"We must stress at this point that EBC-46 will only be trialled in the short-term for tumours which can be accessed by direct injection or topical application," Dr Boyle said.

"There is no evidence to suggest EBC-46 would be effective against metastatic cancers."

The pre-clinical trials at QIMR Berghofer have been largely funded by QBiotics with additional support from the NHMRC.

More information: Boyle GM, D'Souza MMA, Pierce CJ, Adams RA, Cantor AS, et al. (2014) "Intra-Lesional Injection of the Novel PKC Activator EBC-46 Rapidly Ablates Tumors in Mouse Models." *PLoS ONE* 9(10): e108887. [DOI: 10.1371/journal.pone.0108887](https://doi.org/10.1371/journal.pone.0108887)

Provided by QIMR Berghofer Medical Research Institute

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