

BENITEC'S LUNG CANCER COLLABORATORS DISCOVER MECHANISM OF DRUG RESISTANCE

- **Researchers at University of New South Wales describe a mechanism by which beta III-tubulin confers drug resistance in non-small cell lung cancer (NSCLC)**
- **Important findings for Benitec's NSCLC program in collaboration with the Children's Cancer Institute at UNSW Australia**

Sydney, Australia, 10 December 2014: Benitec Biopharma Limited (ASX: BLT, OTC: BTEBY) advises that the research team at the University of New South Wales Australia (UNSW Australia) has discovered a molecular mechanism by which the beta III-tubulin gene confers resistance to chemotherapy drugs. These findings have been published in the prestigious, international peer-reviewed journal *Cancer Research* on 20 November 2014 on line. The title of the paper is 'TUBB3/ β III-tubulin acts through the PTEN/AKT signaling axis to promote tumorigenesis and anoikis resistance in non-small cell lung cancer'.

CEO and Managing Director of Benitec Biopharma, Dr Peter French, said, "This is an important milestone for Benitec's NSCLC program. Determining the mechanism of action of beta III-tubulin in drug resistance, and by inference, using ddRNAi to silence this gene and reverse that resistance is a very important step in validating the approach clinically. Professor Kavallaris and her team have produced very insightful data that will form an important part of a regulatory submission."

Professor Kavallaris said, "Defining the molecular mechanism of action of beta III-tubulin has been five years in the making. We have shown that beta III-tubulin appears to have a significant role in modulating the PTEN/AKT signaling pathway in NSCLC cells. Suppression of beta III-tubulin using RNA interference dampens the AKT survival pathway in NSCLC cells, thus pointing to the potential mechanism by which beta III-tubulin expression affects tumour growth and resistance to chemotherapy drugs."

Benitec Biopharma is collaborating with Professor Kavallaris' group at the Children's Cancer Institute at UNSW Australia, with an exclusive license to the IP around using RNAi to knockdown beta III-tubulin to overcome chemotherapy resistance in cancer cells. Benitec has previously announced successful preclinical *in vivo* proof of concept studies demonstrating a doubling of survival in a model of human lung cancer. Benitec continues to progress this program towards the clinic.



For more information, please contact the persons below or visit the Company's website at www.benitec.com.

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About Benitec Biopharma Limited:

Benitec Biopharma Limited is an ASX-listed biotechnology company (ASX: BLT, OTC: BTEBY) based in Sydney, Australia. The company has a pipeline of in-house and partnered therapeutic programs based on its patented gene-silencing technology, ddRNAi. Benitec is developing treatments for chronic and life-threatening human conditions such as hepatitis C, hepatitis B, wet age-related macular degeneration, drug resistant lung cancer and oculopharyngeal muscular dystrophy based on this technology. In addition, Benitec has licensed ddRNAi technology to other biopharmaceutical companies for applications including HIV/AIDS, retinitis pigmentosa, chronic pain and Huntington's disease. For more information refer to the Company's website at www.benitec.com.