



MIREVEN ANNOUNCES POSITIVE *IN VITRO* RESULTS FOR miRNA-7-5p IN MELANOMA

- ***Publication in Biochemical and Biophysical Research Communications shows miRNA-7-5p inhibits melanoma cell migration and invasion***
- ***MiReven launches its new website at www.mireven.com.au***

Perth, Western Australia, February 12, 2013 – MiReven, an Australian microRNA company commercialising discoveries from the Western Australian Institute for Medical Research (WAIMR) on the anti-cancer potential of miR-7, today announced the publication in the journal *Biochemical and Biophysical Research Communications* of an *in vitro* study where the microRNA "miR-7-5p" significantly inhibited the migration and invasion of metastatic melanoma cells.

At the same time MiReven is launching its new corporate website, which can be viewed at:

www.MiReven.com.au

MicroRNAs (miRNAs) - non-coding regulatory RNA molecules with altered expression and function in cancer - have both oncogenic and tumor suppressor potential. While the function of many miRNAs in melanoma remains unclear, several recent reports have implicated specific miRNAs, including miR-7-5p, in the progression to metastatic disease.

In the study, miR-7-5p expression was shown to be reduced in metastatic melanoma-derived cell lines compared with primary melanoma cells. When the microRNA was reintroduced and expressed ectopically, migration and invasion of the melanoma cells was significantly inhibited *in vitro*. The study authors also investigated the mechanism of miR-7-5p and found that insulin receptor substrate-2 (IRS-2) is a functional target of miR-7-5p which then decreases activity in the protein kinase B (Akt) signaling pathway, a key regulator of many oncogenic processes including cell migration.

Dr Keith Giles and Professor Peter Leedman from the WAIMR, who led the study, explained: "There is considerable interest in the molecular pathogenesis of malignant melanoma and a focus on finding ways to improve survival of patients with metastatic disease. Our study shows that miR-7-5p may represent a novel therapeutic approach to prevent or limit melanoma metastasis."

Dr Stephen Thompson, Chairman of MiReven Pty Ltd, said:

"This now published study is one of several in press or already published demonstrating the utility of microRNAs in the treatment of cancer. Alongside antibodies and small molecule inhibitors, a picture is emerging where microRNAs offer a new direction for cancer therapeutic interventions. Specifically, this study shows that miR-7 acts on other pathways in cancer beyond EGFR."

The study was published in the peer reviewed journal *Biochemical and Biophysical Research Communications* ([Volume 430, Issue 2](#), Pages 706-710) and is entitled "miRNA-7-5p Inhibits Melanoma Cell Migration and Invasion" by Keith M. Giles, Rikki Brown, Michael R. Epis, Felicity C. Kalinowski and Peter J. Leedman

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About MiReven

MiReven Pty Ltd was formed in 2010 through an investment from the Medical Research Commercialisation Fund (MCRF). The company is commercialising the pioneering work of Prof Peter Leedman and Dr Keith Giles at the Western Australian Institute for Medical Research (WAIMR) on the anti-cancer potential of miR-7. WAIMR's published research shows that miR-7 can knock-out an essential growth receptor for cancer, known as the epidermal growth factor receptor (EGFR), as well as its associated signaling pathways that promote cancer development. EGFR is a major target for cancer therapy because it is often associated with disease progression, resistance to chemotherapy and radiation therapy. WAIMR is assisted in the commercialisation of its intellectual property by the University of Western Australia, through its Office of Industry and Innovation. For more information please visit www.mireven.com.au

About MicroRNAs and miR-7

MicroRNAs have emerged as an important class of small RNAs encoded in the genome. They act as master regulators to control the expression of sets of genes and entire cellular pathways. Recent studies have demonstrated that microRNAs are associated with many disease processes, including cancer. Because they are single molecular entities that dictate the expression of fundamental regulatory pathways, microRNAs represent potential drug targets for controlling many biologic and disease processes.

miR-7 (miR-7-5p) is a microRNA that was found by Professor Leedman and his team at WAIMR to act as a tumour suppressor through inhibition of the epidermal growth factor receptor (EGFR) and its downstream signaling pathways that promote cancer development. EGFR is a major target for cancer therapy because it is often associated with disease progression, resistance to chemotherapy/radiation therapy, and poor prognosis.

About WAIMR

WAIMR is Western Australia's premier adult medical research institute, investigating the genetic and environmental causes of a range of diseases. Formed in 1998 with a vision of fostering a high-level of collaboration between the State's medical researchers, our team has made, and continues to make, a number of internationally-important discoveries with the potential to deliver better health to the global community. Currently, WAIMR is situated at two locations - the Perth Campus is located at the Medical Research Foundation building of Royal Perth Hospital, while the Nedlands Campus is at B Block, Queen Elizabeth II Medical Centre. www.waimr.uwa.edu.au

About The University of Western Australia (UWA)

Established in 1911, UWA is a research-intensive university ranked 96 in the world, 26 for Life & Agricultural Sciences and 51 to 75 for Clinical Medicine & Pharmacy, in the highly respected Shanghai-Jiao Tong University's Academic Ranking of World Universities in 2012. As Western Australia's premier university, UWA is a member of the prestigious 'Group of Eight'-a coalition of the top research universities in Australia- and one of only two Australian universities to belong to the Worldwide

Universities Network, a partnership of 18 research-led universities from Europe, North America, North Asia, Australia and Africa. The commercialisation of WAIMR intellectual property is facilitated through UWA's Office of Industry & Innovation.

www.uwa.edu.au