

## MEDICAL AND SCIENTIFIC COMMITTEE ANNUAL LAY REPORT 2015

<b>Lay Project Title:</b>	Determining the role of the gene ZBTB11 in causing liver cancer
<b>Chief Investigator(s):</b>	Prof Graham Lieschke, Dr Cristina Keightley, Prof Zhiyuan Gong
<b>Unit/Institution:</b>	Australian Regenerative Medicine Institute (ARMI), Monash University
<b>Years Funded:</b>	2013-2015

<b>1</b>	<p><b>Lay Abstract</b></p> <p>Hepatocellular carcinoma (HCC) is cancer of the liver. It is one of the commonest cancers worldwide and one of the most fatal cancers. Over the last three decades, the incidence rates of HCC in Australia have steadily risen. There is no effective therapy for advanced HCC, and the 5-year survival rate remains &lt;12%. Identifying new pathways that go wrong to cause liver cancer could identify new molecular targets for new drug treatments. Proteins that are required for the complex process of organ development in embryos are normally tightly regulated. It is these proteins that are often culprits in the development of cancer, which occurs when their strict regulation is disrupted. We have shown that a relatively unstudied protein, Zbtb11, is required for liver development. We have also shown that Zbtb11 is controlled by the master liver regulator HNF4a, whose loss is associated with HCC. In addition, we have shown that Zbtb11 regulates the tumour suppressor TP53. Our studies are investigating how Zbtb11 affects liver tumour development, and if levels of this protein in human liver cancer samples correlate with disease features. We are studying human HCC samples, HCC cell lines, and are doing functional studies in zebrafish, because these are good zebrafish models of HCC and from previous work we have good tools to manipulate the level of Zbtb11 protein in zebrafish. If our studies show that too much Zbtb11 is involved in causing liver cancer, there is genuine potential for developing drugs that target it, because this has already been done for similar proteins.</p>
<b>2</b>	<p><b>Please list all papers arising from this research project, which have been published, or accepted for publication, in refereed journals since the commencement of this grant. Please list in chronological order, include title, sequence of authors, first, and last pages, name, volume and date of journal.</b></p> <p><i>Briefly annotate major findings within these publications</i></p> <p>N/A</p>
<b>3</b>	<p><b>Please list any presentations relating to this research project that were made at scientific meetings during 2015.</b></p> <p><i>Please identify the meeting, provide the title of your presentation and indicate the type of presentation (plenary, invited, selected, poster etc, or session chair)</i></p> <p>Internal presentations only.</p>

**4 Certification by Chief Investigator**

I confirm that the above details are correct.



Signature: \_\_\_\_\_ Date: 28/1/2016

Graham Lieschke