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Mirrx Therapeutics and Centenary Institute of Cancer Medicine and Cell Biology Sign Strategic Collaboration and Commercialisation Agreement to Develop Blockmir Drugs to Treat Pathological Conditions including Ischemia, Inflammation, Oedema and Solid Tumours

Vejle, Denmark and Sydney, Australia, 7th November, 2013 – Mirrx Therapeutics A/S ("Mirrx") and Centenary Institute of Cancer Medicine and Cell Biology ("Centenary Institute") today announced the execution of a Strategic Collaboration and Commercialisation Agreement, which formalises a long standing collaboration to discover and develop therapeutic oligonucleotide drug candidates targeting vascular endothelial cadherin (VE-cadherin). Pharmacological modulation of VE-cadherin expression has the potential to treat a broad range of diseases for which regulation of vascular permeability and angiogenesis are important; including ischemic conditions, inflammation, oedema and solid tumours. The Agreement includes cross-licensing of patents, collaborative research and joint commercialisation activities.

VE-cadherin is a key cell-cell junctional protein in the endothelial lining of the blood vessels that regulates junctional structure and downstream signalling events, including regulation of vascular permeability and promotion of normal angiogenesis. Mirrx and Centenary have discovered that VE-cadherin expression is regulated, in-part, by the microRNA miR-27a. This negative regulator is itself down-regulated during angiogenic processes (for example after an ischemia event), leading to increased expression of VE-cadherin and reduced vascular permeability and stimulation of angiogenesis. The collaborators' lead drug candidate, CD5-2, a novel, potent 15-mer oligonucleotide drug, leverages Mirrx' proprietary Blockmir technology to selectively inhibit miR-27a VE-cadherin regulation without affecting miR-27a regulation of its other targets. *In vivo* investigation of CD5-2 in a variety of animal models has demonstrated that this drug potently inhibits vascular permeability and promotes angiogenesis, leading to increased blood flow, decreased oedema and faster recovery, for example, in the industry standard hind limb ischemia mouse model. The collaborators recently published the discovery and characterisation of CD5-2 in the prestigious journal Blood, in a research paper entitled "Regulation of vascular leak and recovery from ischemic injury by general and VE-cadherin-restricted miRNA antagonists of miR-27a" (Young *et al.*, 2013, Blood, 122(16):2911-2919).

Dr Thorleif Møller, CEO of Mirrx, commented "We are very pleased to have entered into this partnership with the Centenary Institute, which to the best of our knowledge has provided the first therapeutic *in vivo* proof of concept for blocking microRNA binding sites in messenger RNA. Moreover, the partnership has validated our 2nd generation Blockmir design with improved specificity and potency. We look forward to continuing our efforts in developing new therapeutic oligonucleotide drug candidates targeting VE-cadherin together with the world class researchers of the Centenary Institute, and believe that this work will provide a new perspective on the field of microRNA based therapeutics."

Professor Mathew Vadas, Executive Director of the Centenary Institute, said "Leaky blood vessels, as manifest by tissue swelling that can ultimately obstruct blood supply, is a very important clinical

problem from the emergency room all the way to rehabilitation. The potential of a useful drug preventing vascular leak is very exciting and we look forward to its clinical development in collaboration with Mirrx."

The Mirrx and Centenary Institute discovery of CD5-2 and the Strategic Collaboration and Commercialisation Agreement announced today were facilitated by Bio-Link Australia Pty Ltd, a biotechnology commercialisation company. Bio-Link is now engaged by the collaborators to facilitate licensing of CD5-2 to a biopharmaceutical company interested to pursue its further development and commercialisation for potentially a broad range of therapeutic uses. More information about this licensing opportunity can be found at: http://bio-link.com/therapeutics/

About Mirrx Therapeutics and Blockmir Technology

Mirrx Therapeutics is a privately owned Danish biotechnology company located in Vejle, Denmark, whose investors include Vecata Invest A/S, an investment company of the Bagger-Sørensen Group. Mirrx is developing a proprietary, novel, microRNA-blocking technology, Blockmirs, which are antisense oligonucleotides that selectively bind to a microRNA binding site on a target mRNA. This unique approach blocks single microRNA:mRNA interactions, resulting in exquisitely targeted regulation of specific mRNAs, thereby potentially reducing unintended effects on gene activity observed using more conventional microRNA antagonists. The Mirrx Centenary Institute lead drug candidate CD5-2 exemplifies this selectivity by preventing miR-27a regulation of VE-cadherin, whilst still allowing miR-27a to regulate its other messenger RNA targets. <u>www.mirrx.com</u>

About Centenary Institute of Cancer Medicine and Cell Biology

The Centenary Institute opened in 1989 to celebrate the centenaries of the Sydney University Medical School and the Royal Prince Alfred Hospital. Centenary is an independent leader in medical research seeking improved treatments and cures for cancer, cardiovascular, immunological and infectious diseases. We are working to discover new prevention, early diagnosis and treatment options to enable each generation to live longer, healthier lives than the one before. Centenary is also recognised nationally and internationally through our application of state of the art complex technologies in cytometry, imaging and bioinformatics to our research. www.centenary.org.au and www.centenarynews.org.au

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