

MEDIA RELEASE

Collaborative Research Agreement between VivaZome Pty Ltd and ToolGen, Inc.

27 August, 2019; Melbourne, Australia and Seoul, South Korea: VivaZome Therapeutics Pty Ltd (“VivaZome”) and ToolGen, Inc (“ToolGen”) have announced the execution of a collaborative research and option agreement to explore gene-editing of cells for enhanced exosome production.

Under the agreement, ToolGen will use its CRISPR/Cas9 technology to introduce gene edits into selected cell types. The gene edits are aimed at selectively altering the content and characteristics of exosomes produced by the cells. The gene-edited cells and exosomes will be analysed by VivaZome via its Cooperative Research Centre (CRC)-P partner, La Trobe University.

CRISPR/Cas9 technology allows scientists to insert or delete genes with high efficiency and fidelity. ToolGen is a leading company in the gene editing field and holds CRISPR/Cas9-related patents and patent applications in multiple territories. The agreement includes an option for VivaZome to license ToolGen’s technology, as well as any IP arising from the research program, for the development and commercialisation of exosome products for human therapy.

VivaZome’s Chief Scientific Officer, Dr David Haylock, stated: “VivaZome is very pleased to be able to access ToolGen’s experience, expertise and technology and apply it to the development of this exciting new class of therapeutics. The program with ToolGen is an ideal complement to the project in our CRC-P.”

Director of ToolGen, Dr Jae young Lee, added: “Exosomes have great therapeutic potential and the field of exosomes is growing rapidly. We look forward to working with the team at VivaZome to develop gene edited cells with the potential to enable and accelerate the development of exosome-based therapies.”

CEO of ToolGen, Jongmoon Kim, commented: “This collaboration agreement with VivaZome further validates the value of our gene editing platform. We are very excited to expand our capabilities in this exciting field of research.”

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About VivaZome Therapeutics Pty Ltd

VivaZome Therapeutics Pty Ltd (ABN 59 602 230 964) is a privately-held Australian biotech company, with headquarters at the La Trobe University Technology Enterprise Centre. VivaZome was formed to develop and commercialise exosome-based therapies for debilitating and/or life-threatening disorders, with an initial focus on critical limb ischaemia (CLI).

CLI is a debilitating disease caused by reduced blood flow, most often in the legs. It affects more than 4 million people worldwide, with an estimated treatment cost of over \$10B pa in the US alone. Existing treatments are largely surgical interventions including, in advanced disease, amputation. There is a huge need for new treatments, particularly pharmaceutical interventions to prevent or delay disease progression.

VivaZome is developing new technologies and generating intellectual property and proprietary materials that are applicable generically to exosome therapies. They will also underpin the Company's development of angiogenic exosomes for the treatment of CLI.

The VivaZome team has extensive expertise in the development and commercialisation of biological therapies, together with a wide network of expert contacts in the Australian and global biotech community.

For more information, visit www.vivazome.com

About Exosomes

Exosomes are small particles released by cells. They are a key effector in communication between cells and have the potential to become an off-the-shelf medicine without the technical problems of cell therapies. Currently exosomes are made at small scale – the VivaZome project aims to develop a large-scale, advanced manufacturing process for exosomes.

About ToolGen, Inc.

ToolGen, Inc. is a publicly traded biotechnology company focused on the development and application of genome editing technologies. It creates and holds intellectual property rights for essential tools and technologies for editing the genetic information in microbial, plant, animal, and human cells. ToolGen's mission is to translate the potential of our innovative platform technology into transformative products for biomedicine and agriculture.

For more information, please visit www.toolgen.com