For Immediate Release **May 19, 2021**

Acuitas Announces *Nature* Publication with Verve Therapeutics – Demonstrating Potent and Durable Low- Density Lipoprotein Cholesterol Reduction in Non-Human Primates After a Gene Editing Treatment

Vancouver, B.C. – Acuitas Therapeutics announced publication of research results in the prestigious journal *Nature*, from the company's work as part of a collaboration with Verve Therapeutics, Inc. to develop non-viral lipid nanoparticle (LNP) delivery technologies for single-course *in vivo*, liver-targeted gene editing treatments for cardiovascular disease, the leading cause of death worldwide. The paper (https://doi.org/10.1038/s41586-021-03534-y), entitled "*In vivo CRISPR base editing of PCSK9 durably lowers cholesterol in primates,*" describes exciting and innovative work in which Acuitas' proprietary LNP technology was used to deliver Verve's gene editor to the liver of non-human primates (NHPs) to edit the *PCSK9* gene. Inactivation of the *PCSK9* gene has been shown to turn off PCSK9 protein production and lower low-density lipoprotein cholesterol (LDL-C, known as "bad cholesterol") levels, thereby reducing the risk for cardiovascular disease.

Base editing has a significant advantage over traditional gene editing approaches in that it can efficiently and precisely make single base changes to the human genome that introduce defined changes to disease-associated genes, such as *PCSK9*, in living organisms. VERVE-101 is a *PCSK9*-directed gene editing program comprised of a messenger RNA and an optimized guide RNA for an adenine base editor, all encapsulated in an optimized LNP developed by Acuitas.

The *Nature* publication highlights data demonstrating that a *PCSK9*-directed gene editor delivered to the liver of NHPs using Acuitas' proprietary LNP led to at least 50% average, and as high as 76%, whole liver editing in NHPs across dose levels ranging from 0.5 mg/kg to 3.0 mg/kg, at two weeks following a single-dose treatment. This editing resulted in corresponding durable lowering of blood PCSK9 protein levels of approximately 90% and LDL-C levels of approximately 60% in a long-term study following a single-dose treatment, with reductions remaining stable out more than eight months. Further, an optimized formulation of VERVE-101 demonstrated substantial potency at doses as low as 0.5 mg/kg, which was generally well-tolerated in NHPs at dose levels tested.

"These data represent a significant milestone, both in our work with Verve Therapeutics to develop revolutionary medicines for the treatment of cardiovascular disease, as well as for the

gene editing field more broadly. Given that previous work with nucleic acid LNP-based drugs showed that NHP studies can accurately predict activity in humans, we are very optimistic that therapeutically relevant and durable editing can be achieved at well-tolerated doses in the clinic," says Dr. Ying Tam, Chief Scientific Officer at Acuitas. He continues: "More broadly, this validates the utility of mRNA LNP therapeutics beyond vaccines to a wide range of clinical applications including oncology applications."

About Acuitas Therapeutics

Founded in February 2009, Vancouver-based Acuitas Therapeutics (www.acuitastx.com) is a private biotechnology company that specializes in the development of delivery systems for nucleic acid therapeutics based on lipid nanoparticles. The company partners with pharmaceutical and biotechnology companies and academic institutes to advance nucleic acid therapeutics into clinical trials and to the marketplace. The team works with partners to develop new therapies to address unmet clinical needs based on its internationally-recognized capabilities in delivery technology. Acuitas Therapeutics has agreements in place with several partners to use its proprietary lipid nanotechnology in the development of COVID-19 vaccines. These include Pfizer/BioNTech for COMIRNATY®, which has been approved for Emergency Use in multiple jurisdictions including the U.S., Canada and Europe; and CureVac, which initiated a Phase 2b/3 study in late 2020 and expects to request authorization for Emergency Use in 2021.

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