ASX Announcement – 20 December 2021

ASO Project (Antiviral Therapeutics)

New Positive Data Corroborates Antiviral Activity of Lead ASO Drug

Highlights

- New data corroborates ASO activity in a second cell model of Hepatitis B viral infection:
  - EX00A31 significantly reduced viral DNA replication
  - EX00A31 significantly reduced surface antigen (HBsAg) secretion
- Agreement executed with University of Ghent, Belgium, to validate ASO activity in two preclinical animal studies:
  - Validation of EX00A31 in an animal model of Hepatitis B virus (HBV) infection
  - Validation of EX00A31 in an animal model of Hepatitis C virus (HCV) infection

ASO Project

Resonance Health Ltd (ASX: RHT) ("Resonance Health" or the "Company") is pleased to provide the following update on its Antisense Oligonucleotide ("ASO") project for treating viral hepatitis ("ASO R&D Project"). The ASO R&D Project is part of the Company's Molecular Medicine R&D workstream, which is led by Resonance Health's Dr. Sherif Boulos. The Company recently disclosed (ASX: "ASO R&D Project – Filing of Two Patent Applications", dated 23/11/21) that its drug AS3 (re-named EX00A31; see Annexure A, item 1), targets cyclophilin A, a human protein essential to the growth of many clinically important viruses, including Hepatitis B, D and C.

The Company is pleased to announce that work in Dr. Nadia Warner's (HBV Pathogenesis Group Leader[1]) laboratory demonstrated that EX00A31 significantly reduced Hepatitis B viral replication compared to control in a cell model of disease (see Annexure A, item 2). Encouragingly, treatment also reduced the secretion of Hepatitis B surface antigen (HBsAg), a serum marker of active disease and a driver of immune suppression (see Annexure A, item 2). The current results align with the Company's previous announcement (ASX: "R&D Molecular Medicine ASON Project Results of Dosing Study", dated 21/09/21) that EX00A31 is well-tolerated, engages with, and downregulates its liver target by >96%, relative to control.

Considering these important milestones, the Company is proceeding with the preclinical validation of EX00A31 in a humanized-liver mouse model of Hepatitis B infection. In that regard, the Company has signed a Research Services Agreement with Prof. Philip Mueleman (Liver Infectious Diseases Laboratory: University of Ghent, Belgium), a world leading expert in the testing of antiviral therapeutics. As part of this agreement, Prof. Mueleman will also test EX00A31 against Hepatitis C virus (HCV) in a humanized-liver mouse model, another serious and leading cause of viral hepatitis around the globe (see Annexure A, item 3). The Company is confident that EX00A31 is a legitimate

[1] Dr Nadia Warner is affiliated with the Victorian Infectious Diseases References Laboratory (VIDRL) at the Royal Melbourne Hospital, the Peter Doherty Institute for Infection and Immunity.

and promising therapy for the treatment of both HBV and HCV. Underscoring the broader clinical applicability of EX00A31, up to 8.4% of US patients with Chronic Hepatitis B (CHB) are also co-infected with HCV. The Company expects that both preclinical animal studies will be completed in the first half of 2022.

Viral hepatitis affects over 2.3 billion people globally and is a leading cause of liver failure and cancer. More specifically, CHB is a life-long illness, affecting some 300 million people, including 230,000 Australians. Current treatments fail to eliminate the virus, leaving 40% at risk of an early death from liver-related complications. Aside from the serious morbidities associated with CHB, healthcare costs for a single patient are estimated at around USD$100K[2] annually.

Successful viral elimination will require a 'multi-drug approach' that addresses 2 or more distinct viral pathways. As such, EX00A31 is an ideal co-treatment option precisely because it targets a human protein essential to viral replication, and not the virus directly. And as viruses inevitably mutate, drug resistance is far less likely to emerge against EX00A31 than it would against a direct acting antiviral (DAA). Thus, EX00A31 would act to improve viral clearance, while mitigating the emergence of drug resistance against the agent(s) it is combined with.

The Company looks forward to providing further updates on its ASO viral hepatitis program as well as its other 'drug pipeline programs' that address other important liver related diseases such as NAFLD/NASH and liver cancer (namely, hepatocellular carcinoma; HCC).

This announcement has been authorised for release in accordance with the delegated authority of the Board of Directors of Resonance Health Ltd.

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About Resonance Health

Resonance Health is an Australian healthcare technology and services company, specialising in the development and delivery of noninvasive medical imaging software and services.

The Company's products are used globally by clinicians in the diagnosis and management of human diseases and by pharmaceutical and therapeutic companies in their clinical trials. Resonance Health has gained endorsement by leading physicians worldwide for consistently providing high quality quantitative measurements essential in the diagnosis and management of diseases.

[2] U.S. Medicare figures, 2015; care of Dr Robert Gish MD, Medical Director of the Hepatitis B Foundation.

Resonance Health's dedication to scientific rigour and quality management has enabled it to achieve regulatory clearances for a range of Software as a Medical Device (**SaMD**) products in the USA, Europe, and Australia and to proudly carry ISO 13485 certification for the design and manufacture of medical devices. Some of the SaMD products incorporate the use of Artificial Intelligence (**AI**):

- **FerriScan®** - provides an accurate measurement of liver iron concentration (**LIC**) through a non-invasive MRI-based technology, for use in the assessment of individuals with iron overload conditions. FerriScan® is internationally recognised as the gold standard in LIC assessment.
- **FerriSmart®** - an AI-driven system for the automated real-time measurement of LIC in patients using non-invasive MRI-based technology.
- **HepaFat-AI®** - an AI-driven system for the automated real-time multi-metric measurement of liver fat in patients using non-invasive MRI-based technology, for use in the assessment of individuals with confirmed or suspected fatty liver disease.
- **CardiacT2*** – the most widely accepted MRI based method for assessing heart iron loading. Resonance Health also offers a dual analysis of FerriScan and CardiacT2*. CardiacT2* has regulatory clearance from the FDA, TGA and CE Mark.

The Company has an active development pipeline of additional medical imaging analysis products and services, including, **LiverSmart™** and **Alert-PE™**, an AI tool for the automated review of chest CT scans of patients with suspected pulmonary embolism.

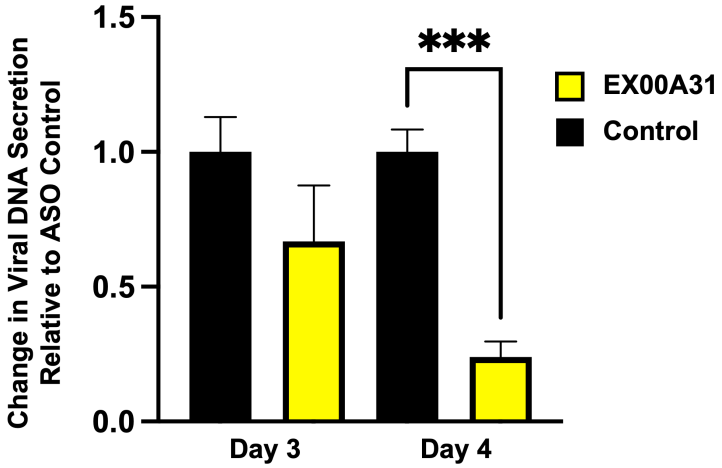
For further information on the Company please visit www.resonancehealth.com and follow Resonance Health Ltd on LinkedIn, FaceBook and Instagram.

Annexure A

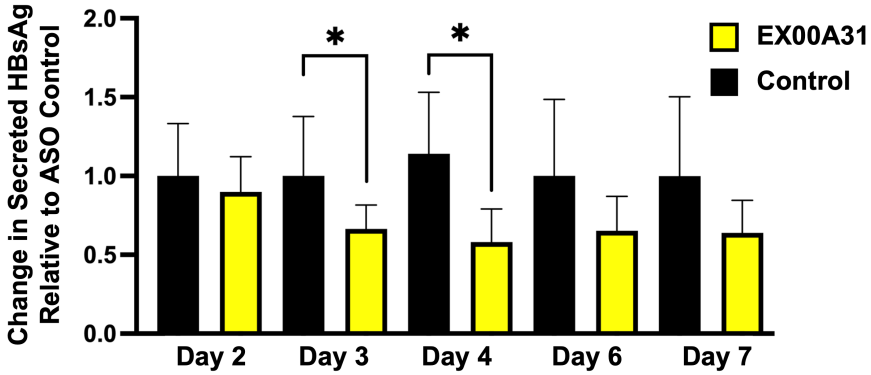
1. EX00A31 is a modified version of AS3 that required validation in a cell model of Hepatitis B viral infection (described herein).

2. EX00A31 reduced Hepatitis B viral replication and HBsAg secretion in human Huh-7 cultures co-transfected with an HBV expressing plasmid. A) Treatment with EX00A31 (500uM) reduced HBV viral replication to 24% (p=0.0004) of the scrambled ASO control by day 4 post-transfection. B) Treatment with EX00A31 (500uM) significantly reduced HBsAg secretion by day 3 (p=0.036) and 4 (p=0.011) post-transfection. Data and statistical analysis represent the combined data from 3 independent, duplicate experiments. GraphPad Prism v9.0 software was used for statistical analysis.

   A.



   B.



3. Novartis Pharmaceuticals licensed Alisporovir (ALV: Debiopharm), a cyclophilin A inhibitor for the treatment of Hepatitis C viral infection. Despite reporting an almost 90% efficacy in a large Phase III clinical trial, Novartis terminated the clinical development of Alisporovir in 2015 and returned its ownership to Debiopharm, its Swiss developer. Advances in ASO drug technology now mean that liver tissue can be selectively targeted, allowing for lower doses, at greater efficacy and with an improved safety profile.