Nyrada's PCSK9 Inhibitor Evaluated in Novel Model of Atherosclerosis

- Nyrada's PCSK9 inhibitor shown to block the early stages of atherosclerosis
- Results relate to a study run in a novel human tissue-engineered blood vessel model of atherosclerosis developed by researchers at Duke University
- Study results to be presented in a poster at the North American Vascular Biology Organisation conference

Sydney, 20 July 2022: Nyrada Inc (ASX: NYR) ("Nyrada" or "the Company") a preclinical stage, drug development company specialising in novel small molecule drugs to treat cardiovascular and neurological diseases, today announced that results of a study run by researchers at the Duke University Pratt School of Engineering (Duke) using select candidates from Nyrada's PCSK9 inhibitor family of compounds will be presented at the North American Vascular Biology Organisation's (NAVBO) 2022 Vasculata conference in North Carolina on 19 July 2022.

In a bio-engineered model of atherosclerosis developed in the lab of Professor George Truskey, Nyrada's PCSK9 inhibitor blocked the early stages of atherosclerotic plaque progression, including preventing monocyte adhesion and suppression of inflammatory cytokines, both of which are key mediators of the disease process.

The objective of the study was to determine if PCSK9 inhibitors attenuate inflammation in vascular cells in the early phases of atherosclerosis.

The model is based on novel human tissue-engineered blood vessels (TEBVs) that replicate naturally occurring blood vessels outside of the body. Duke researchers used a gene-editing tool called CRISPR to generate TEBVs that produce high levels of PCSK9, enabling a detailed analysis of the role of PCSK9 in the development of atherosclerosis.

Commenting on the study, Nyrada Chief Scientific Officer, Dr. Benny Evison said: "We're excited by this opportunity to test our PCSK9 inhibitor technology in the novel model developed by Duke researchers that allows the function of PCSK9 to be fully explored beyond its known role in regulating LDL-cholesterol metabolism in the liver.

"This research is important because it advances the understanding of PCSK9 and its function in the body. It also broadens our understanding of the mode of action of Nyrada's drug. Given that atherosclerotic plaque build-up is a major cause of cardiovascular disease, the opportunity to therapeutically target this disease in its early stages is highly encouraging," added Dr. Evison.

The researchers at Duke intend to publish the findings of this study in a peer-reviewed paper.

About the TEBVs Model

While TEBVs have existed for some time, it has only recently been modified to replicate the early stages of atherosclerosis (Zhang *et al.* (2020). *Nat. Commun*). In addition, this is the first time the model has

been used to characterise the role of PCSK9 in the early phases of atherosclerosis and the potential for small molecule inhibitors of PCSK9 to block this process.

About Nyrada Inc

Nyrada is a preclinical stage, drug discovery, and development company, specialising in novel small molecule drugs to treat cardiovascular and neurological diseases. The Company has two main programs, each targeting market sectors of significant size and considerable unmet clinical need. These are a cholesterol-lowering drug and a drug to treat brain injury, specifically traumatic brain injury and stroke. Nyrada Inc. ARBN 625 401 818 is a company incorporated in the state of Delaware, US, and the liability of its stockholders is limited.

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