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# Novoheart, AstraZeneca to develop Human Heart-in-a-Jar model

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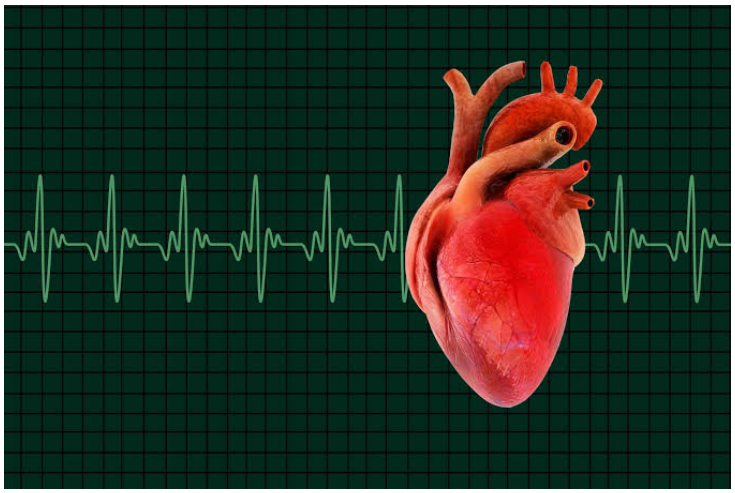
**The collaboration aims to provide a unique solution for future assessment of novel therapeutics**



Canada headquartered Novoheart, a global stem cell biotechnology company, is pleased to announce a collaboration with global biopharmaceutical company AstraZeneca, in an effort to develop the world's first human-specific *in vitro*, functional model of heart failure with preserved ejection fraction (HFpEF), a common condition especially among the elderly and in women, with the reported prevalence approaching 10% in women over the age of 80 years.

In collaboration with the Cardiovascular, Renal and Metabolism therapy area of AstraZeneca, the initial phase of the project aims to establish a new *in vitro* model, leveraging Novoheart's proprietary 3-D human ventricular cardiac organoid chamber (hvCOC) technology, that reproduces key phenotypic characteristics of HFpEF.

Also known as "human heart-in-a-jar", the hvCOC is the only human engineered heart tissue available on the market to date that enables clinically informative assessment of human cardiac pump performance including ejection fraction and developed pressure.

Unlike animal models, engineered hvCOCs can be fabricated with specific cellular and matrix compositions, and patient-specific human induced pluripotent stem cells (iPSCs), that allow control over their physical and mechanical properties to mimic those observed in HFpEF patient hearts. Together with Novoheart's proprietary hardware and software, this aims to provide a unique assay for understanding the mechanisms of HFpEF, identification of new therapeutic targets, and assessment of novel therapeutics for treating HFpEF patients. Novoheart will exclusively own the intellectual property rights to the newly developed HFpEF hvCOC model.