

Heart cells derived from stem cells used to study heart diseases

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(PhysOrg.com) -- A research team at the University of Wisconsin School of Medicine and Public Health is the first to use heart cells derived from stem cells to specifically study certain genetic mechanisms of heart diseases.

Provided by University of Wisconsin-Madison

Researchers led by Drs. Craig January and Tim Kamp, professors of medicine at the UW School of Medicine and Public Health, are using iPSC (induced-pluripotent stem cell) technology to make heart cells from [skin cells](#).

The goal is to offer a cell model allowing researchers to study disease mechanisms, and new treatments and therapies for genetically based heart diseases such as inherited arrhythmias.

The UW group is among the first to use research of this kind specifically for certain genetically based heart diseases. Their results show that the study of heart cells derived from [stem cells](#) offer a powerful tool for understanding and treating genetically based [heart disease](#).

Dr. January says, "By using patient-derived cardiomyocytes, or [heart cells](#), to isolate a disease process outside of the body, we are able to gain information about how that gene affects the heart, and how it may respond to treatments and therapies, without having to greatly impact the affected patient. We can mimic the disease process in vitro, reproduce and observe the cells, and also test them with different medications to see how they will actually respond in the heart."

The full study will be presented by Dr. Sadguna Balijepalli, University of Wisconsin Cellular and Molecular Arrhythmia Research Program assistant scientist, at the Heart Rhythm Society's annual scientific sessions in San Francisco, on May 5 where the world's most renowned scientists and physicians present on a wide range of heart rhythm topics.

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