Therapeutics & Vaccines

CHO Cell Line Expressing HERG-1 Potassium Channels

WARF: P00082US

Inventors: Gail Robertson, Barry Ganetzky, Jeffrey Warmke, Matthew Trudeau, Samuel Breit, Terence Campbell, Bruce Walker, Stella Valenzuela

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a CHO cell line useful for drug screening.

Overview

HERG-1 (human ether-a-go-go-related gene) potassium channels mediate repolarization of cardiac action potentials. Loss of function mutations in hERG-1 can result in long QT syndrome, an inherited disorder that increases an individual's susceptibility to ventricular arrhythmia and sudden death. Current therapies include the use of beta-blockers, but beta-blockers can fail in children and women; therefore, research into additional pharmacotherapies is needed. Chinese hamster ovary (CHO) cells are an epithelial cell line often used in biological and medical research and have been used in a variety of studies to study pharmacotherapies on hERG-1 channels. In the present invention, CHO cells have an overexpression of hERG-1, which may provide an additional tool to screen drugs and compounds for their effects on hERG-1 channels.

The Invention

UW-Madison researchers have transfected Chinese hamster ovary (CHO) cells with *HERG-1* constructs (see WARF reference number P96132US for background on HERG). Since defects in the cardiac potassium channel encoded by *HERG-1* can lead to potentially fatal arrythmias, these cells may be used to screen for drugs that may unintentionally block the channel.

Applications

- Provide a stable overexpression cell line for hERG-1 potassium channels in ovaries

Key Benefits

- May be used as an alternative to stably transfected human embryonic kidney (HEK293) cells
- Has low interference from endogenous channels
- Useful for screening drugs

Additional Information

For More Information About the Inventors

- Gail Robertson
- Barry Ganetzky

Related Technologies

- Interested in licensing this technology? Visit our HERG technologies agreements page to access the license template for this technology

- See WARF reference number P96132US for information about HERG
- See WARF reference number P00052US for HEK293 cells transfected with HERG-1

Tech Fields

- Drug Discovery & Development : Other drug discovery & development
- Research Tools : Cell lines
- Therapeutics & Vaccines : Cardiovascular

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854