



## Cell Line Stably Expressing Human Cardiac Ion Channel Common Polymorphism, K897T

WARF: P05413US

Inventors: Craig January, Blake Anson, Corey Anderson, Brian Delisle

**The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a human embryonic kidney cell line that stably expresses a common polymorphism of the HERG potassium channel.**

### Overview

The *human ether-a-go-go related gene* (*HERG1* or *KCNH2*) potassium channel is critical to maintaining normal cardiac rhythm. Because unintended block of HERG channel activity by drugs can cause long QT syndrome, leading to cardiac arrhythmias and sudden death, HERG expression systems are a useful early screen in drug development.

### The Invention

UW-Madison researchers have developed a new human embryonic kidney (HEK 293) cell line that stably expresses the K897T polymorphism of the HERG potassium channel. The K897T polymorphism is the most common HERG polymorphism and is present in 25 to 30 percent of humans. Experiments suggest that carriers of this polymorphism may have a subtle but discernable phenotype that is distinct from the wild-type phenotype.

### Applications

- Allows investigators to test the effects of drugs and other compounds on a common HERG polymorphism

### Key Benefits

- Cells are of human lineage and can be studied at body temperature, providing the highest stringency assay. (Channel defects may be suppressed at room temperature.)
- The HEK 293 cell line is stable, providing a constant source of material.
- The HERG-K897T cDNA was confirmed to be error-free through direct sequencing.

### Additional Information

#### For More Information About the Inventors

- [Craig January](#)

#### Related Technologies

- [See WARF reference number P04289US for a HEK293 cell line expressing wild-type HERG1.](#)

#### Tech Fields

- [Drug Discovery & Development : Preclinical testing](#)
- [Research Tools : Cell lines](#)

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| [info@warf.org](mailto:info@warf.org) | 608.960.9850