



**Stably Transfected Cell Line - Product Data Sheet**  
**hK<sub>v</sub>4.3-CHO**  
**Catalog Number CT6143**

**Related Services and Products**

FastPatch<sup>®</sup> and ScreenPatch<sup>™</sup> automated patch clamp services  
Replicating hK<sub>v</sub>4.3-HEK cell line. Cat. No. CT6144  
Replicating hK<sub>v</sub>4.3/KChIP2.2-CHO cell line. Cat. No. CT6171  
Additional information available at [www.chantest.com](http://www.chantest.com)

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## 1 Cell Line Description

### 1.1 Background

K<sub>v</sub>4.3 is a voltage-gated, K<sup>+</sup>-selective channel expressed in the heart, central nervous system, and smooth muscle. In heart, K<sub>v</sub>4.3 mediates a transient outward current, I<sub>to</sub>, responsible for phase 1 action potential repolarization. The channel is a potential therapeutic target in atrial fibrillation.

### 1.2 Pore-forming subunit identifier: hK<sub>v</sub>4.3

Class: Voltage-gated potassium channel  
Species: Human  
Gene name: KCND3

### 1.3 Sequence Information

The cDNA sequence of the KCND3 gene used to create this cell line was confirmed prior to transfection. The amino acid sequence encoded by the transfected cDNA is identical to the translated sequence for GenBank accession number NM\_004980.3.

### 1.4 Expression System

CHO (Chinese hamster ovary) cells, constitutive expression.

### 1.5 Product Format

Cryopreserved cells, 1 x10<sup>6</sup> cells/vial.

### 1.6 Mycoplasma Status: Negative

The absence of mycoplasma species in this cell line was confirmed with the MycoAlert Kit (Lonza Rockland, Inc.).

### 1.7 Cell Line Stability

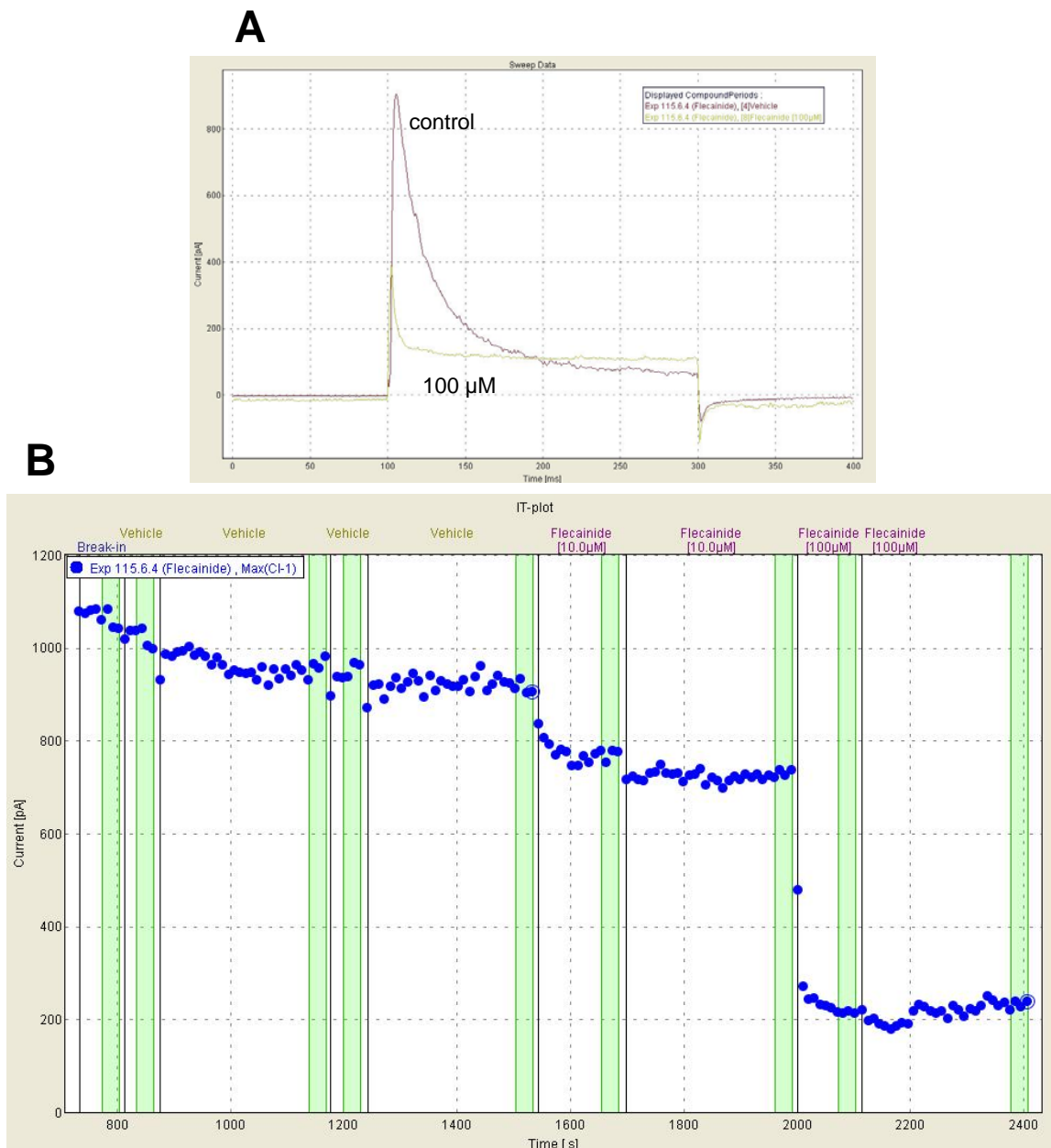
Current amplitudes remained stable for at least 27 passages.

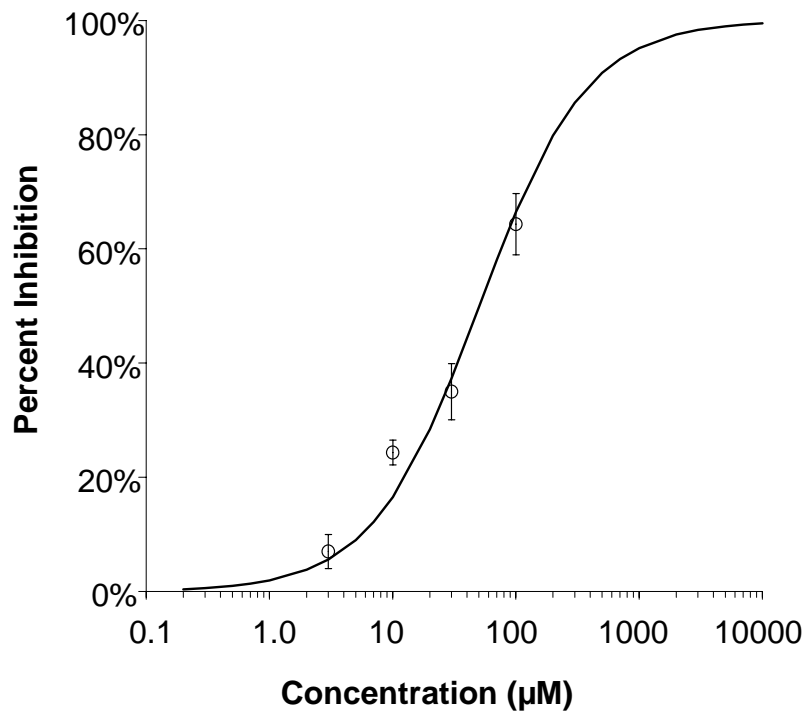
## 2 Validated Test Platforms

Electrophysiological and pharmacological verification of the functional properties of the cloned channels was assessed in the following test platforms:

QPatch™ (Sophion)

## 2.1 QPatch™ Representative Data





**Figure 2. Flecainide concentration-response relationship.**

Mean peak current amplitude  $\pm$  SEM, n = 3 - 5 cells/concentration. IC<sub>50</sub> = 50.4  $\mu$ M).

### 3 References

Gutman GA, et al. 2005. International Union of Pharmacology. LIII. Nomenclature and molecular relationships of voltage-gated potassium channels. *Pharmacol Rev.* 57:473-508.