



**hK<sub>ir</sub>2.1-CHO**  
**Stably Transfected Cell Line**  
**Catalog Number CT6127**

**Related Services and Products**

FastPatch<sup>®</sup> and ScreenPatch<sup>™</sup> automated patch clamp services  
Replicating hK<sub>ir</sub>2.1-HEK cell line. Cat. No. CT6103  
Additional information available at [www.chantest.com](http://www.chantest.com)

**Contact Information**

ChanTest Corporation  
14656 Neo Parkway  
Cleveland OH 44128  
Tel: (216) 584-0590  
Fax: (216) 584-0591

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## 1 Cell Line Description

### 1.1 Background

K<sub>ir</sub>2.1 is an inwardly-rectifying, K<sup>+</sup>-selective channel, widely distributed in various tissues including cardiac, smooth and skeletal muscle, and brain. In the heart, K<sub>ir</sub>2.1 is responsible for the I<sub>K1</sub> current that regulates resting potential and contributes to action potential repolarization.

### 1.2 Pore-forming subunit identifier: hK<sub>ir</sub>2.1

Class: Inwardly rectifying potassium channel  
Species: Human  
Gene name: KCNJ2

### 1.3 Sequence Information

The cDNA sequence of the KCNJ2 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\_000891.2.

### 1.4 Expression System

CHO (Chinese hamster ovary) cells, inducible 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

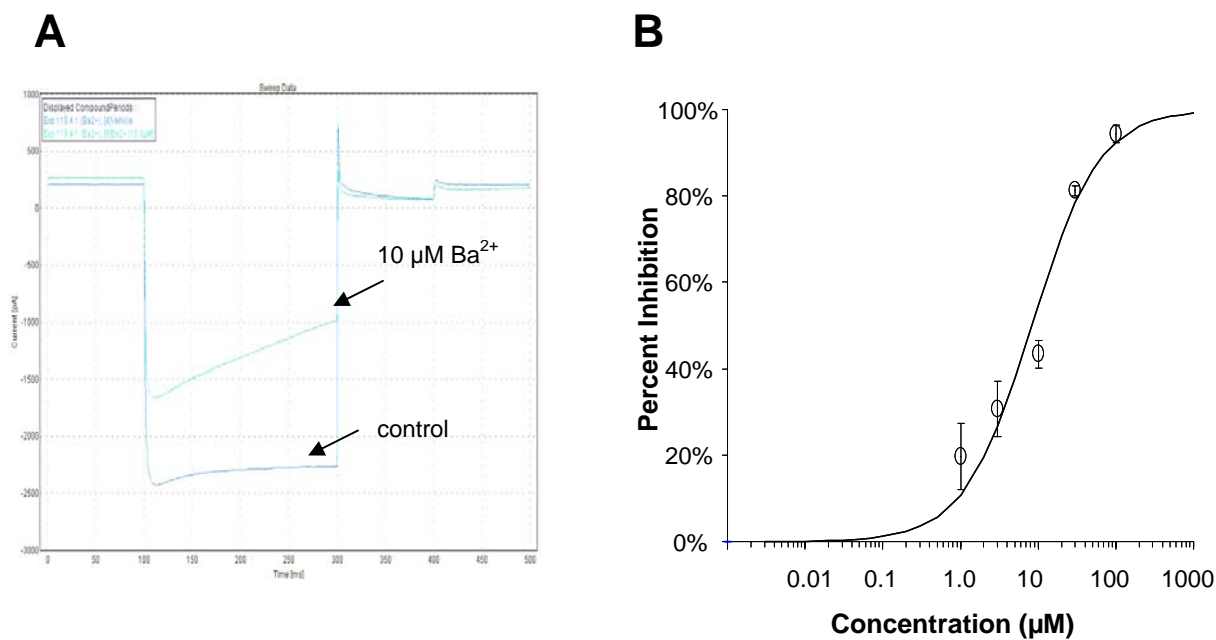
Channel expression in this cell line has been stable for at least 71 passages.

## 2 Validated Test Platforms

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

QPatch™ (Sophion)

## 2.1 QPatch™ Representative Data



**Figure 1. Ba<sup>2+</sup> Block of hK<sub>ir</sub>2.1-CHO in QPatch™**

**A:** Currents elicited by 200-ms test pulses to -110 mV at 10 s intervals from holding potential = -30 mV. **B:** Concentration-response relationship (mean ± SEM, n = 3 - 6 cells/concentration, IC<sub>50</sub> = 8.3 μM).

## 3 References

Kubo Y et al., International Union of Pharmacology. LIV. Nomenclature and molecular relationships of inwardly rectifying potassium channels. *Pharmacol Rev.* 2005 57:509-526.