



# SZABO SCANDIC

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## Produktinformation



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Diagnostik & molekulare Diagnostik



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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# HERG (h8): 293 Lysate: sc-158613

## BACKGROUND

Human ether-a-go-go related gene (HERG) encodes the pore-forming  $\alpha$  subunit of the delayed rectifier potassium channel IKr. The HERG subunit contains six transmembrane  $\alpha$ -helices with a reentrant "pore-loop" between the fifth and the sixth transmembrane helices. The two N-terminal splice variants of HERG include the full-length isoform 1 $\alpha$  and the shorter isoform 1 $\beta$ .

Isoform 1 $\beta$  lacks the PAS motif and deactivates at a faster rate than isoform 1 $\alpha$ . Residues within the C-terminal play a role in channel expression and channel gating, including voltage-dependent activation. HERG is expressed in the heart and is more abundantly expressed in the ventricles than in the atria. Mutations in the gene encoding HERG increase beat-to-beat variability and early after depolarization. These fluctuations facilitate the genesis and propagation of premature heartbeats associated with inheritable long QT syndrome

## REFERENCES

1. Heginbotham, L., et al. 1994. Mutations in the K<sup>+</sup> channel signature sequence. *Biophys. J.* 66: 1061-1067.
2. Curran, M.E., et al. 1995. A molecular basis for cardiac arrhythmia: HERG mutations cause long QT syndrome. *Cell* 80: 795-803.
3. Sanguinetti, M.C., et al. 1995. A mechanistic link between an inherited and an acquired cardiac arrhythmia: HERG encodes the IKr potassium channel. *Cell* 81: 299-307.
4. Lees-Miller, J.P., et al. 1997. Electrophysiological characterization of an alternatively processed ERG K<sup>+</sup> channel in mouse and human hearts. *Circ. Res.* 81: 719-726.
5. Doyle, D.A., et al. 1998. The structure of the potassium channel: molecular basis of K<sup>+</sup> conduction and selectivity. *Science* 280: 69-77.
6. Pond, A.L., et al. 2000. Expression of distinct ERG proteins in rat, mouse, and human heart. Relation to functional IKr channels. *J. Biol. Chem.* 275: 5997-6006.
7. Aydar, E., et al. 2001. Functional characterization of the C-terminus of the human ether-a-go-go-related gene K<sup>+</sup> channel (HERG). *J. Physiol.* 534: 1-14.
8. Hoppe, U.C., et al. 2001. Distinct gene-specific mechanisms of arrhythmia revealed by cardiac gene transfer of two long QT disease genes, HERG and KCNE1. *Proc. Natl. Acad. Sci. USA* 98: 5335-5340.

## CHROMOSOMAL LOCATION

Genetic locus: KCNH<sub>2</sub> (human) mapping to 7q36.1.

## PRODUCT

HERG (h8): 293 Lysate represents a lysate of human HERG transfected 293 cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## APPLICATIONS

HERG (h8): 293 Lysate is suitable as a Western Blotting positive control for human reactive HERG antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.