

HERG (H-175): sc-20130

BACKGROUND

Human ether-a-go-go related gene (HERG) encodes the pore-forming α subunit of the delayed rectifier potassium channel I_{Kr} . The HERG subunit contains six transmembrane α -helices with a re-entrant "pore-loop" between the fifth and the sixth transmembrane helices. The two N-terminal splice variants of HERG include the full-length isoform 1 α and the shorter isoform 1 β . Isoform 1 β lacks the PAS motif and deactivates at a faster rate than isoform 1 α . 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

- Heginbotham, L., et al. 1994. Mutations in the K⁺ channel signature sequence. *Biophys. J.* 66: 1061-1067.
- Curran, M.E., et al. 1995. A molecular basis for cardiac arrhythmia: HERG mutations cause long QT syndrome. *Cell* 80: 795-803.

CHROMOSOMAL LOCATION

Genetic locus: KCNH₂ (human) mapping to 7q36.1; Kcnh₂ (mouse) mapping to 5 A3.

SOURCE

HERG (H-175) is a rabbit polyclonal antibody raised against amino acids 96-270 mapping near the N-terminus of HERG of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HERG (H-175) is recommended for detection of HERG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HERG (H-175) is also recommended for detection of HERG in additional species, including equine, canine and bovine.

Suitable for use as control antibody for HERG siRNA (h): sc-42497, HERG siRNA (m): sc-42498, HERG shRNA Plasmid (h): sc-42497-SH, HERG shRNA Plasmid (m): sc-42498-SH, HERG shRNA (h) Lentiviral Particles: sc-42497-V and HERG shRNA (m) Lentiviral Particles: sc-42498-V.

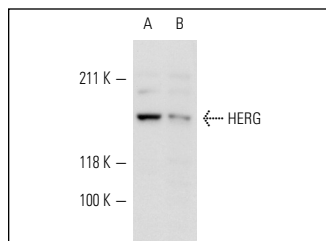
Molecular Weight of HERG: 127 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, mouse heart tissue extract: sc-2254 or rat heart tissue extract: sc-2393.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



HERG (H-175): sc-20130. Western blot analysis of HERG expression in EOC 20 (A) and EOC 13.31 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Rajamani, S., et al. 2006. Specific serine proteases selectively damage KCNH₂ (hERG1) potassium channels and I_{Kr} . *Am. J. Physiol. Heart Circ. Physiol.* 290: H1278-H1288.
- Hsueh, C.H., et al. 2008. Functional studies on three novel HCNH₂ mutations in Taiwan: identification of distinct mechanisms of channel defect and dissociation between glycosylation defect and assembly defect. *Biochem. Biophys. Res. Commun.* 373: 572-578.
- Huang, X., et al. 2009. The effects of a novel anti-arrhythmic drug, acehitytisine hydrochloride, on the human ether-a-go-go related gene K channel and its trafficking. *Basic Clin. Pharmacol. Toxicol.* 104: 145-154.
- Hu, C., et al. 2011. Down-regulation of the human ether-a-go-go-related gene in rat cardiac hypertrophy. *Am. J. Med. Sci.* 341: 119-125.
- Sroubek, J., et al. 2011. Protein kinase A activity at the endoplasmic reticulum surface is responsible for augmentation of human ether-a-go-go-related gene product (HERG). *J. Biol. Chem.* 286: 21927-21936.
- Zheng, F., et al. 2012. Imatinib has the potential to exert its antileukemia effects by down-regulating hERG1 K⁺ channels in chronic myelogenous leukemia. *Med. Oncol.* 29: 2127-2135.
- Zheng, F., et al. 2012. Human ether-a-go-go-related gene K⁺ channels regulate shedding of leukemia cell-derived microvesicles. *Leuk. Lymphoma.* 53: 1592-1598.

RESEARCH USE

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

MONOS
Satisfaction
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Try **HERG (F-12): sc-377388** or **HERG (F-3): sc-515611**, our highly recommended monoclonal alternatives to HERG (H-175).