

PrecisION[®] hHCN4 Recombinant Stable Cell Line

Catalog Number CYL3012

Lot Number

See Vial

Contents 2 Vials, 2 x 10⁶ to 4 x 10⁶ in 1 mL

Background Information

HCN4 is the major Hyperpolarization-activated Cyclic Nucleotide-gated ion channel in the mammalian heart. They are voltage-gated, cation channels, typically closed at resting and depolarized membrane potentials. The action of HCN4 is essential for the rhythmicity of the heart beat as well as controlling the strength of the contraction. HCN4 is expressed in the heart and brain, but significantly, not in the retina. Additional information can be found on page 2.

Product Information

Description Recombinant CHO-K1 cell line expressing the human hyperpolarization-activated cyclic nucleotide-gated potassium channel 4 (HCN4)

Family HCN, Hyperpolarized

Target HCN4

	Target Protein	Accession Number
1	HCN4	AJ238850
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A

Species Human

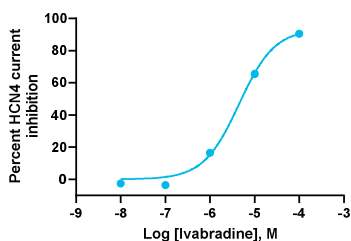
Host Cell Type CHO-K1

Application Electrophysiology assay (conventional and automated patch clamp platforms)

Storage Vials are to be stored in vapor phase of liquid nitrogen

Functional Performance

CHO cells expressing hHCN4 were characterized in terms of their pharmacological and biophysical properties using whole-cell patch clamp techniques.



Electrophysiology Method QPatch

Reference Agonist

Reference Antagonist Ivabradine

Antagonist IC₅₀ (μM) 4.47

Passage Stability

This cell line has been confirmed to be stable through at least 12 passages with no significant drop in assay window or change in pharmacology.

Mycoplasma Testing

This lot was tested and found to be free of mycoplasma contamination. Data available upon request.

Notes

Additional functional (pharmacological and electrophysiological) validation on multiple platforms is available upon request.

Additional Ligand Information

Control Compound Ivabradine

Vendor Name : Sigma-Aldrich

Vendor Catalog No. SML0281

Additional Background Information

The side effects of many anti-arrhythmic drugs include visual disturbances; a selective HCN4 blocker would potentially slow the heart rate without affecting vision. Safety screening, to detect undesirable action on HCN4 channels, is essential to assess the cardiac liability of new drug submissions.

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