PrecisION® hNav1.7 Recombinant Stable Cell Line

Catalog Number CYL3011 **Lot Number** See Vial

Contents 2 Vials, 2 x 10^6 to 4 x 10^6 in 1 mL

Background Information

hNav1.7 is a voltage-gated sodium channel alpha subunit. It is expressed in all types of DRG neurons, sympathetic neurons, Schwann cells and neuroendocrine cells. This channel is involved in action potential initiation and transmission in peripheral neurons and is a potential target for local anaesthetic agents. Specific hereditary mutations in the gene encoding Nav1.7, SCN9A, result in the painful neuropathies, erythermalgia and paroxysmal extreme pain disorder, that can be ascribed to altered firing of pain sensing neurons. Additional information can be found on page 2.

Product Information

Description Recombinant HEK 293 cell line expressing the human Nav1.7 (type IX voltage-gated sodium channel alpha subunit)

Family Sodium, Voltage-Gated

Target Nav1.7

	Target Protein	Accession Number
1	Nav1.7	NM_002977
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A

Species Human

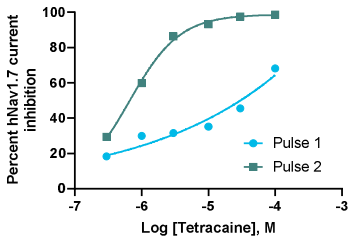
Host Cell Type HEK 293

Application Electrophysiology assay (conventional and automated patch clamp platforms)

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

Functional Performance

HEK293 cells expressing hNav1.7 were characterized in terms of their pharmacological and biophysical properties using whole-cell patch clamp techniques.



Electrophysiology Method QPatch

Reference Agonist

Reference Antagonist Tetracaine

Antagonist IC_{50} (μM) 0.65

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	Tetracaine
Vendor Name :	Sigma-Aldrich
Vendor Catalog No.	T7383

Additional Background Information

Changes in the expression levels of the channel correlates with increases in neuronal excitability in acute and chronic pain syndromes. Hence due to their relatively discrete location and fundamental role in mediating certain types of pain they may be promising targets for pharmacological intervention.

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