PrecisION® hKv3.1 Recombinant Stable Cell Line

Catalog Number CYL3043 **Lot Number** See Vial

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

Background Information

Kv3.1 mRNA is abundantly expressed in auditory brain stem neurons that are able to spike at high frequencies. It has a high threshold of activation and rapid activation/deactivation kinetics (Wang et al., 1998). Evidence for functional Kv3.1 activity in such neurons can be derived from the rapidly activating and deactivating potassium currents seen here, that activate at a high-voltage threshold similar to that of heterologously expressed Kv3.1 (Gan and Kaczmareck, 1998). Additional information can be found on page 2.

Product Information

Description Recombinant CHO-K1 cell line expressing the human voltage-gated potassium channel Kv3.1 (Shaw-related subfamily, member1, KCN1)

Family Potassium, Voltage-Gated

Target Kv3.1

	Target Protein	Accession Number
1	Kv3.1	NM_004976
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A

Species Human

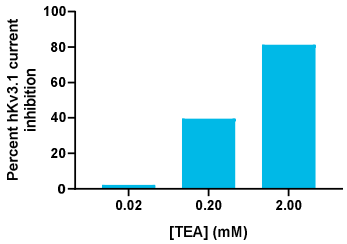
Host Cell Type CHO-K1

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 hKv3.1 were characterized in terms of their pharmacological and biophysical properties using whole-cell patch clamp techniques.



Electrophysiology Method MPC

Reference Agonist

Reference Antagonist TEA

Antagonist IC_{50} (μM)

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	TEA
Vendor Name :	Sigma-Aldrich
Vendor Catalog No.	T2265

Additional Background Information

There are indications that the phosphorylation state in rat Kv3.1 may play a part in the ability of auditory neurons to adjust to the ambient acoustic environment (Song et al., 2005). It is thought that Khv3.1 subunits are likely to form homomultimers in lymphocytes and therefore could be a target for the development of novel immunosuppresants. (Grissmer et al., 1994).

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