PrecisION® hTRPA1 Recombinant Stable Cell Line

Catalog Number CYL3066 **Lot Number** See Vial

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

Background Information

There is now compelling evidence to suggest that TRPA1 is primarily responsible for mediating sensations of noxious cold (less than 17 deg) and has a significant role in conveying inflammatory pain responses (Garcia-Anoveros and Nagata, 2007). TRPA1 is located in a subset of DRG neurons that respond to noxious cold (Story et al., 2003) and in recombinant expression systems noxious cold has been shown to directly activate this channel (Sawada et al., 2007). Additional information can be found on page 2.

Product Information

Description Recombinant HEK 293 cell line expressing the human TRPA1 transient receptor potential cation channels, subfamily A, member 1 (ankyrin-like protein)

Family TRP

Target TRPA1

	Target Protein	Accession Number
1	TRPA1	Y10601
2	TRPA1	NM_007332
3	N/A	N/A
4	N/A	N/A

Species Human

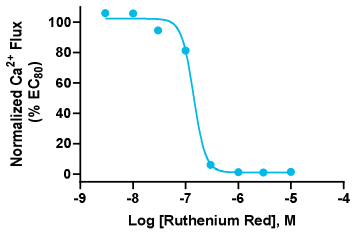
Host Cell Type HEK 293

Application Electrophysiology assay (conventional patch clamp and fluorescent plate-based platforms)

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

Functional Performance

HEK293 cells expressing hTRPA1 were characterized in terms of their pharmacological and biophysical properties using FLIPR calcium assay.



Electrophysiology Method	FLIPR
Reference Agonist	AITC
Reference Antagonist	Ruthenium Red
Antagonist IC_{50} (μM)	0.14

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	Ruthenium Red
Vendor Name :	Sigma-Aldrich
Vendor Catalog No.	R2751

Additional Background Information

Furthermore, the same set of sensory neurons in DRG and neurons in the trigeminal ganglia produce nociceptive responses to irritant agents such allyl isothiocyanate (AITC) from mustard oil, allicin from garlic and cinnamaldehyde from cinnamon that have all been shown to selectively activate TRPA1 (Bandell et al., 2004). TRPA1 deficient mice do not show pain behaviour associated with administration of AITC or noxious cold, clearly demonstrating that these behaviours are mediated by TRPA1 (Kwan et al., 2006).

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