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Product Sheet

H_TrkA Reporter CHO-K1 Cell Line

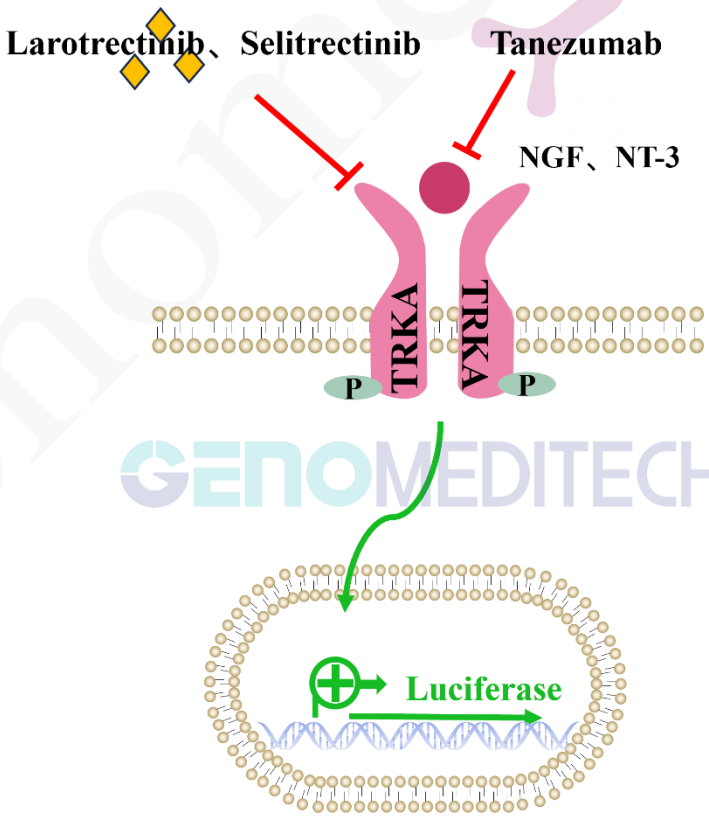
Catalog number: GM-C46266

Version 4.0.26.1104

Tropomyosin receptor kinase A (TrkA), encoded by the NTRK1 gene, is a receptor tyrosine kinase mainly expressed on sensory and sympathetic neurons. It is the high-affinity receptor for nerve growth factor (NGF) and is essential for neuronal survival, differentiation, and pain signaling, making it a therapeutic target for neuropathic pain and NTRK fusion-positive cancers.

Upon NGF binding, TrkA dimerizes and autophosphorylates, activating downstream PLCγ, Ras/MAPK, and PI3K/AKT pathways. PLCγ hydrolyzes PIP_2 into IP_3 and DAG, raising intracellular calcium and activating PKC, which together with PI3K/AKT converges on NF-κB and CREB to promote neuronal survival and plasticity.

H_TrkA Reporter CHO-K1 Cell Line is a stable CHO-K1 cell line with constitutive TrkA expression and an NGF-inducible luciferase reporter. Ligand binding activates TrkA signaling, driving luciferase expression. Luciferase readout reflects pathway activation and enables in vitro evaluation of TrkA-targeted compounds.



For research use only!

Specifications

Quantity	5E6 Cells per vial,1 mL
Product Format	1 vial of frozen cells
Shipping	Shipped on dry ice
Storage Conditions	Liquid nitrogen immediately upon receipt
Recovery Medium	F12K+10% FBS+1% P.S
Growth medium	F12K+10% FBS+1% P.S+4 μg/mL Blasticidin+4 μg/mL Puromycin
Note	None
Freezing Medium	90% FBS+10% DMSO
Growth properties	Adherent
Growth Conditions	37°C, 5% CO_2
Mycoplasma Testing	The cell line has been screened to confirm the absence of Mycoplasma species.
Safety considerations	Biosafety Level 2
Note	It is recommended to expand the cell culture and store a minimum of 10 vials at an early passage for potential future use.

Materials

Reagent	Manufacturer/Catalogue No.
F12K	BOSTER/PYG0036
Fetal Bovine Serum	ExCell/FSP500
Pen/Strep	Thermo/15140-122
Blasticidin	Genomeditech/GM-040404
Puromycin	Genomeditech/GM-040401
96 well round cell culture plate	PakGent/CL-PT096
96-well White Opaque Plate	Thermo/236108
96-well U-bottom Plate	Saining/1014010
Anti-TrkA hIgG4 Antibody (PHD48)	Genomeditech/GM-89074AB
Larotrectinib	MCE/HY-12866
Selitrectinib	MCE/HY-101977
Human Beta-NGF Protein	kactusbio/NGF-HM00B
GMOne-Step 2.0 Luciferase Reporter Gene Assay Kit	Genomeditech/GM-040513
Countess 3 Automated Cell Counter	ThermoFisher/A49891
SpectraMax® L Microplate Luminometer	Moleculardevices/SpectraMax L

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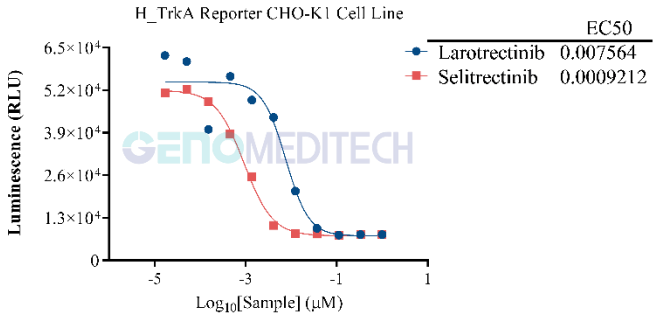
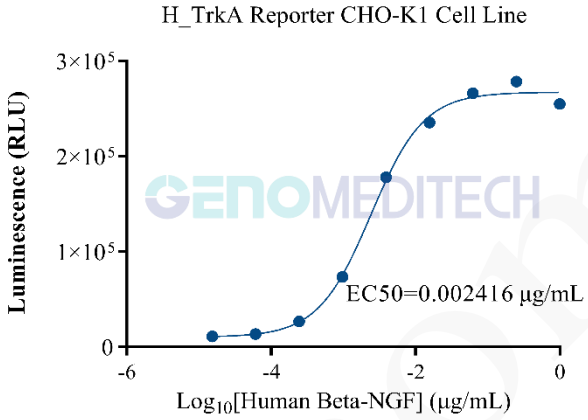
Data

Applications



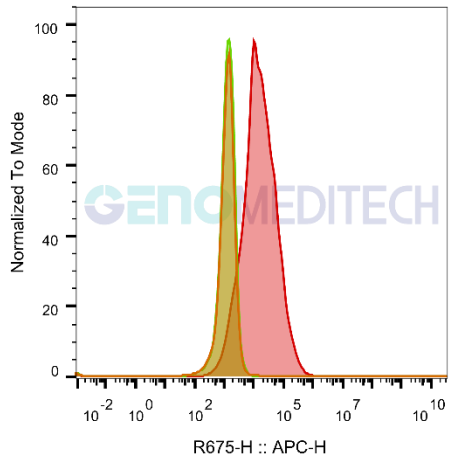
Inhibition of Human Beta-NGF Protein-induced reporter activity by Larotrectinib and Selitrectinib. Serial dilutions of the Larotrectinib (MCE/HY-12866) and Selitrectinib (MCE/HY-101977) were incubated with 1E4 cells/well of the H_TrkA Reporter CHO-K1 Cell Line (Cat. GM-C46266) in a 96-well plate for 1 hour in assay buffer (F12K + 1% FBS + 1% P.S). Subsequently, the Human Beta-NGF Protein (kactusbio/NGF-HM00B) was added to each well at a final concentration of 5 ng/mL and the coculture proceeded for an additional 6 hours. Firefly luciferase activity was then measured using the Luciferase Reporter Assay Kit (Genomeditech). Data are shown by drug molar concentration.

Signaling Pathway



Response to Human Beta-NGF Protein. H_TrkA Reporter CHO-K1 Cell Line (Cat. GM-C46266) was seeded at a density of 1E4 cells per well in a 96-well plate and incubated overnight. The next day, serial dilutions of the Human Beta-NGF Protein (kactusbio/NGF-HM00B) were added to the pre-seeded cells. The mixture was incubated for an additional 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech). The maximum induction fold was approximately [30.1]. Data are shown by drug mass concentration.

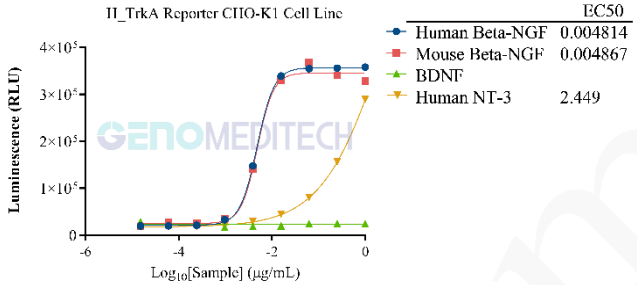
Expression



	SampleID	Geometric Mean : R675-H
	CHO-K1 Anti-TrkA+APC 2nd Ab	1182
	H_TrkA Reporter CHO-K1 H_IgG+APC 2nd Ab	1221
	H_TrkA Reporter CHO-K1 Anti-TrkA+APC 2nd Ab	15160

H_TrkA Reporter CHO-K1 Cell Line (Cat. GM-C46266) was determined by flow cytometry using Anti-TrkA hIgG4 Antibody (PHD48) (Cat. GM-89074AB).

Specificity



Response to Human Beta-NGF Protein, BDNF, Recombinant Human Neurotrophin 3/NT-3 Protein and Recombinant Mouse Beta-NGF Protein. The H_TrkA Reporter CHO-K1 Cell Line (Cat. GM-C46266) at a concentration of 1E4 cells/well (96-well format) was stimulated with serial dilutions of drugs in assay buffer (F12K+1% FBS+1% P.S) for 6 hours. The firefly luciferase activity was measured using the Luciferase Reporter Assay Kit (Genomeditech).Data are shown by drug mass concentration.

Cell Recovery

Recovery Medium: F12K+10% FBS+1% P.S

To insure the highest level of viability, thaw the vial and initiate the culture as soon as possible upon receipt. If upon arrival, continued storage of the frozen culture is necessary, it should be stored in liquid nitrogen vapor phase and not at -70°C. Storage at -70°C will result in loss of viability.

a) Thaw the vial by gentle agitation in a 37°C water bath. To reduce the possibility of contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 - 3 minutes).
b) Remove the vial from the water bath as soon as the contents are thawed, and decontaminate by dipping in or spraying with 70% ethanol. All of the operations from this point on should be carried out under strict aseptic conditions.
c) Transfer the vial contents to a centrifuge tube containing 5.0 mL complete culture medium and spin at approximately 176 x g for 5 minutes. Discard supernatant.
d) Resuspend cell pellet with the recommended recovery medium. And dispense into appropriate culture dishes.
e) Incubate the culture at 37°C in a suitable incubator. A 5% CO_2 in air atmosphere is recommended if using the medium described on this product sheet.

Cell Freezing

Freezing Medium: 90% FBS+10% DMSO

a) Centrifuge at 176 x g for 3 minutes to collect cells.
b) Resuspend the cells in pre-cooled freezing medium and adjust the cell density to 5E6 cells/mL.
c) Aliquot 1 mL into each vial.
d) Place the vial in a controlled-rate freezing container and store at -80°C for at least 1 day, then transfer to liquid nitrogen as soon as possible.

Cell passage

Growth medium: F12K+10% FBS+1% P.S+4 μg/mL Blasticidin+4 μg/mL Puromycin

For the first 1 to 2 passages post-resuscitation, use the recovery medium. Once the cells have stabilized, switch to a growth medium.

a) Remove and discard culture medium.
b) Briefly rinse the cell layer with PBS to remove all traces of serum that contains trypsin inhibitor.
c) Add 1.0 mL of 0.25% (w/v) Trypsin-EDTA solution to dish and observe cells under an inverted microscope until cell layer is dispersed (usually within 2 to 3 minutes at 37°C).
d) Note: To avoid clumping do not agitate the cells by hitting or shaking the flask while waiting for the cells to detach. Cells that are difficult to detach may be placed at 37°C to facilitate dispersal.
e) Add 2.0 mL of growth medium to mix well and aspirate cells by gently pipetting.
f) After centrifugation, resuspend the pellet and add appropriate aliquots of the cell suspension to new culture vessels.
g) Incubate cultures at 37°C.

Subcultivation Ratio: A subcultivation ratio of 1:4 - 1:5 is recommended

Medium Renewal: Every 2 to 3 days

Notes

a) After the stabilization of the cell condition, there will be fewer dead cells post-passage, the cell growth rate will tend to stabilize, cell morphology will become uniform, and the cells will appear robust.

Related Products

TRKB	
H_TrkB Reporter CHO-K1 Cell Line	H_TrkB HEK-293 Cell Line
Anti-TrkB hIgG4 Antibody (H4H9816P2)	
Human TrkB Protein; His Tag	
c-Kit:SCF	
H_c-Kit(CD117) GNNK(-) 293 Blockade Reporter Cell Line	Cynomolgus_c-Kit(CD117) GNNK(-) CHO-K1 Cell Line
H_c-Kit(CD117) GNNK(-) CHO-K1 Cell Line	H_c-Kit(CD117) GNNK(-) HEK-293 Cell Line
H_c-Kit(CD117) GNNK(+) CHO-K1 Cell Line	H_KITLG(SCF220) CHO-K1 Cell Line
H_KITLG(SCF248) CHO-K1 Cell Line	H_KITLG(SCF248) HEK-293 Cell Line
Anti-c-Kit(CD117) hIgG1 Antibody(barzolvolimab)	Anti-c-Kit(CD117) hIgG1 Antibody(briquilimab)
Anti-c-Kit(CD117) hIgG1 Reference Antibody (Bribio)	Anti-c-Kit(CD117) hIgG1 Reference Antibody(barbio)
Anti-SCF248 hIgG4 Antibody(5H10)	
Biotinylated Human c-Kit(CD117) Protein; His-Avi Tag	Biotinylated Human SCF Protein; His-Avi Tag
Cynomolgus c-Kit(CD117) Protein; His Tag	Human c-Kit(CD117) D4-D5 Protein; His Tag
Human c-Kit(CD117) Protein; hFc Tag	Human c-Kit(CD117) Protein; His Tag
Human SCF Protein; His Tag	Human SCF Protein; mFc Tag
Mouse SCF Protein; His Tag	
TRKA	
H_TrkA HEK-293 Cell Line	
Anti-TrkA hIgG4 Antibody (PHD48)	
Human TrkA Protein; hFc Tag	Human TrkA Protein; His Tag
MRGPRX2	
H_MRGPRX2 Gq Reporter CHO-K1 Cell Line	H_MRGPRX2 Gqi5 Reporter CHO-K1 Cell Line
Tango-H_MRGPRX2 CHO-K1 Cell Line	Cynomolgus_MRGPRX2 CHO-K1 Cell Line
Cynomolgus_MRGPRX2 HEK-293 Cell Line	Flag-Mouse_Mrgprb2 CHO-K1 Cell Line
Flag-Rat_Mrgprb3 HEK-293 Cell Line	H_MRGPRX2 CHO-K1 Cell Line
H_MRGPRX2 HEK-293 Cell Line	H_MRGPRX2 HMC-1 Cell Line
H_MRGPRX2 RBL-2H3 Cell Line	
IGHE(FcεRIα)	
FcεRIα Reporter RBL-2H3 Cell Line	Membrane IgE(mIgE) HEK-293 Cell Line
Anti-FcεRI hIgG1 Antibody (1E7)	Anti-IGHE hIgG1 Reference Antibody(Omalbio)
Biotinylated Human IgE D2-D4 Protein; His-Avi Tag	Cynomolgus IgE D2-D4 Protein; His Tag
Human FCER1A Protein; His Tag	Human FCER2(CD23) Protein; His Tag
Human IgE D2-D4 Protein; His Tag	

License Agreement

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