Anti-NK-1R Antibody [JE39-75]

HA721491

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Cell, FC
Molecular Wt:	Predicted band size: 46 kDa
Clone number:	JE39-75

Description: The tachykinin receptor 1 (TACR1) also known as neurokinin 1 receptor (NK1R) or substance P receptor (SPR) is a G protein coupled receptor found in the central nervous system and peripheral nervous system. The endogenous ligand for this receptor is Substance P, although it has some affinity for other tachykinins. The protein is the product of the TACR1 gene. This receptor is considered an attractive drug target, particularly with regards to potential analgesics and anti-depressants. It is also a potential treatment for alcoholism and opioid addiction. In addition, it has been identified as a candidate in the etiology of bipolar disorder. Finally NK1R antagonists may also have a role as novel antiemetics and hypnotics.

Immunogen: Recombinant protein within Human NK-1R aa 308-407 / 407.

Positive control: HeLa cell lysate, SH-SY5Y cell lysate, U-87 MG cell lysate, NCCIT cell lysate, F9 cell lysate, Neuro-2a cell lysate, C6 cell lysate, mouse brain tissue, rat brain tissue, Neuro-2a.

Subcellular location: Cell membrane.

Database links: SwissProt: P25103 Human | P30548 Mouse | P14600 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200
IF-Cell	1:100
FC	1:500-1:1,000

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

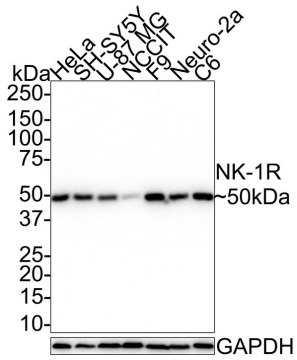

Fig1: Western blot analysis of NK-1R on different lysates with Rabbit anti-NK-1R antibody (HA721491) at 1/1,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: SH-SY5Y cell lysate
Lane 3: U-87 MG cell lysate
Lane 4: NCCIT cell lysate
Lane 5: F9 cell lysate
Lane 6: Neuro-2a cell lysate
Lane 7: C6 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 46 kDa
Observed band size: 50 kDa

Exposure time: 20 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721491) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

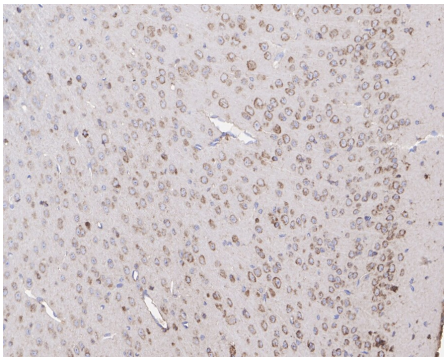

Fig2: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-NK-1R antibody (HA721491) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721491) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

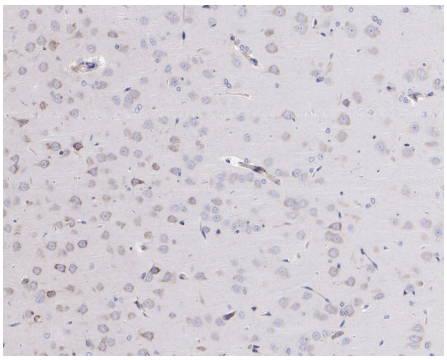

Fig3: Immunohistochemical analysis of paraffin-embedded rat brain tissue with Rabbit anti-NK-1R antibody (HA721491) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721491) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

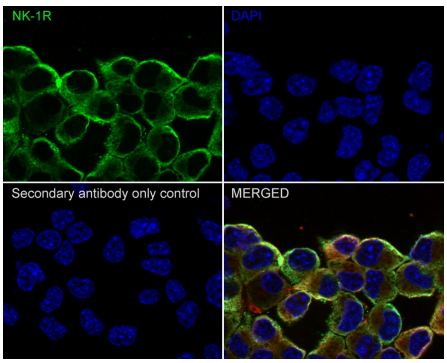

Fig4: Immunocytochemistry analysis of Neuro-2a cells labeling NK-1R with Rabbit anti-NK-1R antibody (HA721491) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-NK-1R antibody (HA721491) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

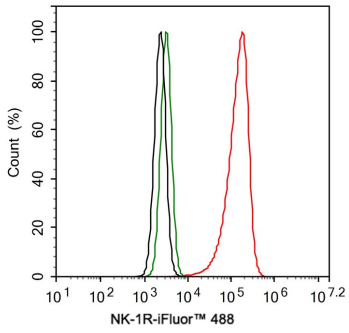

Fig5: Flow cytometric analysis of Neuro-2a cells labeling NK-1R.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA721491, 1ug/ml) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. García-Aranda M et al. Neurokinin-1 Receptor (NK-1R) Antagonists as a New Strategy to Overcome Cancer Resistance. Cancers (Basel). 2022 Apr
2. González-Moles MÁ et al. Significance of the Overexpression of Substance P and Its Receptor NK-1R in Head and Neck Carcinogenesis: A Systematic Review and Meta-Analysis. Cancers (Basel). 2021 Mar