

# NK3R Antibody

Catalog # ASC10550

## Product Information

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<b>Application</b>	WB, IF, E, IHC-P
<b>Primary Accession</b>	<a href="#">P29371</a>
<b>Other Accession</b>	<a href="#">P29371</a> , <a href="#">128364</a>
<b>Reactivity</b>	Human, Mouse
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG
<b>Calculated MW</b>	52202
<b>Concentration (mg/ml)</b>	1 mg/mL
<b>Conjugate</b>	Unconjugated
<b>Application Notes</b>	NK3R antibody can be used for detection of NK3R by Western blot at 0.5 - 2 $\mu$ g/mL. Antibody can also be used for immunohistochemistry starting at 5 $\mu$ g/mL. For immunofluorescence start at 20 $\mu$ g/mL.

## Additional Information

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<b>Gene ID</b>	6870
<b>Other Names</b>	Neuromedin-K receptor, NKR, NK-3 receptor, NK-3R, Neurokinin B receptor, Tachykinin receptor 3, TACR3, NK3R, TAC3R
<b>Target/Specificity</b>	TACR3; NK3R antibody does not recognize NK1R or NK2R.
<b>Reconstitution &amp; Storage</b>	NK3R antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
<b>Precautions</b>	NK3R Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	TACR3
<b>Synonyms</b>	NK3R, TAC3R
<b>Function</b>	This is a receptor for the tachykinin neuropeptide neuromedin-K (neurokinin B). It is associated with G proteins that activate a phosphatidylinositol-calcium second messenger system. The rank order of affinity of this receptor to tachykinins is: neuromedin-K > substance K > substance P.
<b>Cellular Location</b>	Cell membrane; Multi-pass membrane protein.

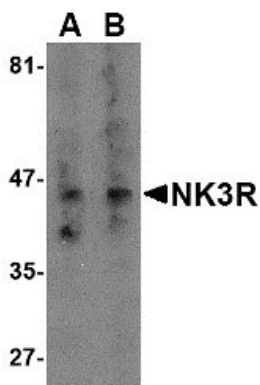
## Background

**NK3R Antibody:** The tachykinins are a family of small peptides that include the neurotransmitters substance P, neurokinin A, and neurokinin B, which can act on three related but distinct seven transmembrane G-proteins coupled receptors, albeit at different concentrations. The NK-3 receptor (NK3R) has greatest affinity for neurokinin B and is highly expressed in the supraoptic and paraventricular nuclei. Following binding of its ligand, NK3R activates a phosphatidylinositol-calcium second messenger system. It is likely these signals lead to the release of vasopressin and oxytocin into the circulation. NK3R may be involved in learning and memory as mice lacking this gene expressed cognitive deficits compared to normal mice. Although it has been suggested that NK3R plays a role in the regulation of vagal afferent relay neurons, it is likely that these receptors are activated by substance P or neurokinin A, as the airway nerves do not express neurokinin B.

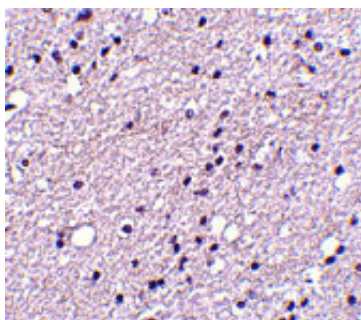
## References

- Maggi CA. The mammalian tachykinin receptors. *Gen. Pharmacol.* 1995; 26:911-44.
- Ding Y-Q, Shi J, Su L-Y, et al. Receptor (NK3)-containing neurons in the paraventricular and supraoptic nuclei of the rat hypothalamus synthesize vasopressin and express fos following intravenous injection of hypotonic saline. *Neurosci.* 1999; 91:1077-85.
- Nakajima Y, Tsuchida K, Negishi M, et al. Direct linkage of three tachykinin receptors to stimulation of both phosphatidylinositol hydrolysis and cyclic AMP cascades in transfected Chinese hamster ovary cells. *J. Biol. Chem.* 1992; 267:2437-42.
- Haley GE and Flynn FW. Tachykinin NK3 receptor contribution to systemic release of vasopressin and oxytocin in response to osmotic and hypotensive challenge. *Am. J. Regul. Integr. Comp. Physiol.* 2007; 293:R931-7.

## Images

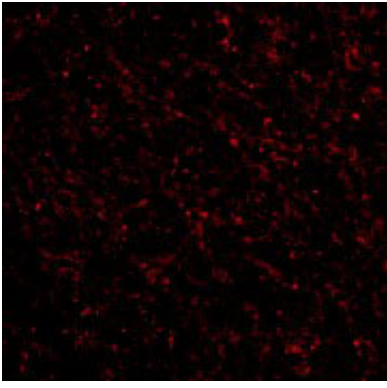


Western blot analysis of NK3R in RAW264.7 cell lysate with NK3R antibody at (A) 0.5 and (B) 1 µg/mL.



Immunohistochemistry of NK3R in human brain tissue with NK3R antibody at 5 µg/mL.

Immunofluorescence of NK3R in Human Brain tissue with NK3R antibody at 20 µg/mL.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.