

Product Information

Anti-Tachykinin Receptor 2

produced in rabbit, affinity isolated antibody

Catalog Number **T6075**

Product Description

Anti-Tachykinin Receptor 2 is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The peptide corresponds to the C-terminus of human tachykinin receptor 2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Tachykinin Receptor 2 specifically recognizes human tachykinin receptor 2 by immunohistochemistry with formalin-fixed, paraffin-embedded tissues and immunocytochemistry. Not tested for other uses. The human receptor has 85% homology with mouse and rat genes. Other species reactivity has not been confirmed.

Three classes of tachykinin receptors have been characterized, the NK-1, NK-2, and NK-3. The NK-1 receptor preferentially binds substance P, the NK-2 receptor binds neurokinin A, and the NK-3 receptor recognizes neurokinin B. These peptides are involved in nociception and neuroimmunomodulation, and in the development of diseases such as bronchial asthma, inflammatory bowel syndrome and psychiatric disorders. Tachykinin receptor antagonists are therefore promising, therapeutically relevant agents.

The human tachykinin receptor 2 (TACR2) [also known as Substance K Receptor, Neurokinin 2 Receptor (NK2) and Neurokinin A Receptor] is selective toward neurokinin A (substance K) and predominates in animal and human airways. The sequences of the cDNA for the NK-2 receptors from rat stomach show that the NK-2 receptor is a member of the rhodopsin superfamily. This multigene family is characterized by the presence of 7 hydrophobic sequences that are believed to represent membrane-spanning regions and are coupled to GTP-binding proteins as signal transducers. Non-peptide antagonists (SR 48968 and SR 144190) were evaluated on the basis of their ability to block neurokinin A (NKA)-induced contractile responses in various regions of the guinea pig

respiratory tract and proved more potent than the peptide antagonist (MEN 10376), indicating their greater therapeutic potential as antiasthmatic agents.

Tachykinin receptor 2 is expressed in trachea, lung, and gastrointestinal tract. ESTs have been isolated from human heart/melanocyte/uterus, prostate, and uterus libraries.

Reagent

Supplied as a solution of 1 mg/mL in phosphate buffered saline, pH 7.7, containing 0.01% sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry and Immunocytochemistry:
A minimum working concentration of 5 µg/mL is determined using human hyperplastic smooth muscle tissue.

Note: In order to obtain the best results in various techniques and preparations, we recommend determining optimal working concentration by titration.

References

1. Morten, J. E. N., et al., Human NK-2 receptor gene maps to chromosome region 10q11-21., *Hum. Genet.* **88**,: 200-203, 1991.
2. Almeida T. A., et al., Tachykinins and tachykinin receptors: structure and activity relationships., *Curr Med. Chem.* **11**, 2045-2081 (2004)
3. Venugopal, C.C., et al., Pharmacologic evaluation of neurokinin-2 receptor antagonists in the guinea pig respiratory tract., *Am. J. Vet. Res.*, **65**, 984-991 (2004).

This product is manufactured by MBL International Corporation

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