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Product Information

Anti-Tachykinin Receptor 1
produced in rabbit, affinity isolated antibody

Catalog Number **T5950**

Product Description

Anti-Tachykinin Receptor 1 is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The peptide corresponds to the 2nd extracellular loop of human tachykinin receptor 1. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Tachykinin Receptor 1 specifically recognizes human tachykinin receptor 1 by immunohistochemistry with formalin-fixed, paraffin-embedded tissues. Not tested for other uses. The human receptor has 88% homology with mouse and rat genes. Other species reactivity has not been confirmed.

The human tachykinin receptor 1 (TACR1) (also known as Substance P Receptor and Neurokinin 1 Receptor) is a 407 amino acid peptide. Three classes of tachykinin receptors have been characterized, NK-1; NK-2; and NK-3; which prefer, respectively, substance P, neurokinin A (substance K, neurokinin α, neuromedin L), and neurokinin B (neurokinin β, neuromedin K). When transfected into COS-7 cells, the NK-1 receptor was selective for substance P; with the relative affinity for neurokinin A and neurokinin B 100- and 500-fold lower, respectively.

Substance P is important for orchestrating the response of the animal to major stressors such as pain, injury, or invasion of territory. The substance P receptor is highly expressed in areas of the brain that are implicated in these behaviors, but also in other areas, such as the nucleus accumbens, that mediates the motivational properties of natural rewards such as food, and drugs of abuse, such as opiates. Mice with a genetic disruption of the substance P receptor demonstrated loss of motivational properties. The loss was specific to morphine. The physical response to opiate withdrawal was also reduced in substance P receptor knockout mice. In conclusion, substance P has an important and specific role in mediating the motivational aspects of opiates and may represent a pharmacologic route for the control of drug abuse.

Tachykinin receptor 1 has been reported primarily in brain, and in blood lymphocytes, nose, small intestine, and stomach. ESTs have been isolated from brain and spleen 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: a minimum working concentration of 3 μg/mL is determined using stomach tissue.

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

References

1. Castagliuolo, I. et al., Neurokinin-1 (NK-1) receptor is required in Clostridium difficile-induced enteritis., *J. Clin. Invest*. **101,** 1547-1550 (1998).
2. De Felipe, C., et al., Altered nociception, analgesia and aggression in mice lacking the receptor for substance P., *Nature*, **39***,* 394-397 (1998).
3. Gerard, N. P., et al., Human substance P receptor (NK-1): organization of the gene, chromosome localization, and functional expression of cDNA clones., *Biochemistry* **30**, 10640-10646 (1991).

This product manufactured by MBL International.

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