

Anti-Neurokinin 1 Receptor/TACR1 Antibody Picoband™

Catalog Number: PB9446

About TACR1

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. Tachykinin receptor 1 consists of 407 amino acid residues, and it has a molecular weight of 58.000. Tachykinin receptor 1, as well as the other tachykinin receptors, is made of seven hydrophobic transmembrane (TM) domains with three extracellular and three intracellular loops, an amino-terminus and a cytoplasmic carboxy-terminus. The loops have functional sites, including two cysteines amino acids for a disulfide bridge, Asp-Arg-Tyr, which is responsible for association with arrestin and, Lys/Arg-Lys/Arg-X-X-Lys/Arg, which interacts with G-proteins. The tachykinin receptor 1 can be found in both the central and peripheral nervous system. It is present in neurons, brainstem, vascular endothelial cells, muscle, gastrointestinal tracts, genitourinary tract, pulmonary tissue, thyroid gland and different types of immune cells. The binding of SP to the tachykinin receptor 1 has been associated with the transmission of stress signals and pain, the contraction of smooth muscles and inflammation. Tachykinin receptor 1 antagonists have also been studied in migraine, emesis and psychiatric disorders. In fact, aprepitant has been proved effective in a number of pathophysiological models of anxiety and depression. Other diseases in which the tachykinin receptor 1 system is involved include asthma, rheumatoid arthritis and gastrointestinal disorders.

Overview

Product Name	Anti-Neurokinin 1 Receptor/TACR1 Antibody Picoband™
Reactive Species	Human, Rat
Description	Boster Bio Anti-Neurokinin 1 Receptor/TACR1 Antibody Picoband™ catalog # PB9446. Tested in WB applications. This antibody reacts with Human, Rat.
Application	WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	P25103

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human TACR1, different from the related mouse sequence by one amino acid, and from the related rat sequence by two amino acids.
Predicted Reactive Species	Hamster

Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human, Rat

Anti-Neurokinin 1 Receptor/TACR1 Antibody Picoband™ (PB9446) Images

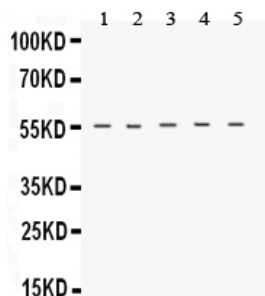


Figure 1. Western blot analysis of TACR1 using anti-TACR1 antibody (PB9446).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.

Lane 1: Human Placenta Tissue Lysate at 50ug,

Lane 2: Rat Lung Tissue Lysate at 50ug,

Lane 3: Rat Brain Tissue Lysate at 50ug,

Lane 4: U87 Whole Cell Lysate at 40ug,

Lane 5: A431 Whole Cell Lysate at 40ug.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes.

Blocked the membrane with 5% non-fat milk/TBS for 1.5

hour at RT. The membrane was incubated with rabbit anti-TACR1 antigen affinity purified polyclonal antibody (Catalog # PB9446) at 0.5 ug/mL overnight at 4°C, then washed with

TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a

dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit

(Catalog # EK1002) with Tanon 5200 system. A specific

band was detected for TACR1 at approximately 55 kDa. The expected band size for TACR1 is at 46 kDa.

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