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antibody and ELISA experts

BOSTER BIOLOGICAL TECHNOLOGY
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Anti-5HT1A Receptor/HTR1A Antibody Picoband®

Catalog Number: PA1647

About HTR1A

HTR1A (5-HYDROXYTRYPTAMINE RECEPTOR 1A), also called SEROTONIN 5-HT-1A RECEPTOR or BETA-2-ADRENERGIC RECEPTOR-LIKE PROTEIN G-21, is a subtype of 5-HT receptor that binds the endogenous neurotransmitter serotonin. It is a G protein-coupled receptor (GPCR) that is coupled to Gi/Go and mediates inhibitory neurotransmission. HTR1A denotes the human gene encoding for the receptor.The HTR1A gene is located at 5q12.3. The decreases in 5-HT-1A receptor densities correlated with decreased glucose utilization as measured by PET scan. Activation of 5-HT-1A receptors has been demonstrated to impair cognition, learning, and memory by inhibiting the release of glutamate and acetylcholine in various areas of the brain. 5-HT-1A receptors in the dorsal raphe nucleus are co-localized with neurokinin 1 (NK1) receptors and have been shown to inhibit the release of substance P, their endogenous ligand.

Overview

Product Name	Anti-5HT1A Receptor/HTR1A Antibody Picoband®
Reactive Species	Human, Rat
Description	Boster Bio Anti-5HT1A Receptor/HTR1A Antibody catalog # PA1647. Tested in IHC, WB applications. This antibody reacts with Human, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
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	P08908

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human 5HT1A Receptor, different from the related rat and mouse sequences by one amino acid.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG

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Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.1-0.5ug/ml, Human, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Rat

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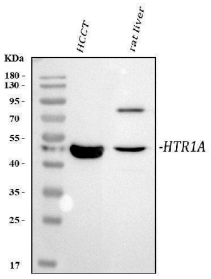
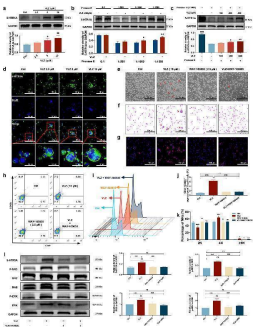
Anti-5HT1A Receptor/HTR1A Antibody Picoband® (PA1647) Images



Western blot analysis of HTR1A using anti-HTR1A antibody (PA1647). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human hepatocellular carcinoma tumor tissue (HCCT) lysates, Lane 2: rat liver tissue lysates. 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-HTR1A antigen affinity purified polyclonal antibody (Catalog # PA1647) 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 HTR1A at approximately 46 kDa. The expected band size for HTR1A is at 46 kDa.



VLZ stimulates megakaryocytopoiesis via the 5-HT1A receptor. (a) Representative immunoblot images and biochemical quantification of 5-HTR1A after treatment with VLZ (2.5, 5, and 10 uM) in Meg-01 cells for 5 days (n=3 per group). (b) The DARTS assay for target validation. 5-HTR1A protein stability was increased upon VLZ (200 uM) treatment in Meg-01 lysates. Pronase was added using several dilutions (1:500, 1:1000, or 1500) from 50 ug/mL stock for 10 min at 40 °C (n=3 per group). (c) The DARTS assay demonstrated the dose-dependent binding of VLZ to 5-HTR1A in Meg-01 cells. Treatment with pronase (1:1000) was conducted for 10 min at 40 °C (n=3 per group). (d) Immunofluorescence analysis of the expression of 5-HTR1A in Meg-01 cells after VLZ (2.5, 5, and 10 uM) intervention for 5 days. Cells were stained with DAPI for nuclei (blue) and antibodies for 5-HTR1A (green). Bars represent 100 um. (e–k) Meg-01 cells were treated with VLZ (10 uM), WAY-100635 (2.5 uM), VLZ (10 uM)+WAY-100635 (2.5 uM) for 5 days. (e) Representative images, bars represent 25 um. (f) Giemsa staining of Meg-01 cells, bars represent 100 um. (g) Phalloidin staining of Meg-01 cells, bars represent 100 um. (h, i) Flow cytometry analysis of the expression of CD41/CD42b and the DNA ploidy. (j, k) The histogram shows the percentage of CD41+/CD42b+ cells and DNA ploidy for each group. (l) Western blot analysis of 5-HTR1A, RAS and ERK expression after Meg-01 cells were treated with VLZ (10 uM), WAY-100635 (2.5 uM), and VLZ (10 uM)+WAY-100635 (2.5 uM) for 5 days. The histogram shows the expression of 5-HTR1A, RAS, and ERK in each group (n=3 per group). The data represent the mean ± SD of three independent experiments. *p≤0.05, **p≤0.01, and ***p≤0.001, ns: no significance, vs the control group. Index in PubMed under a CC BY license. PMID: 38573820

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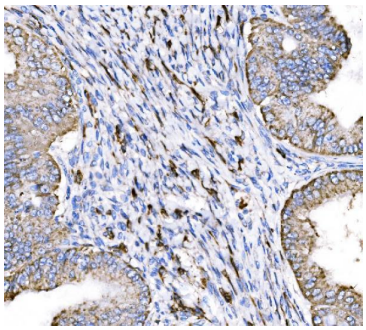
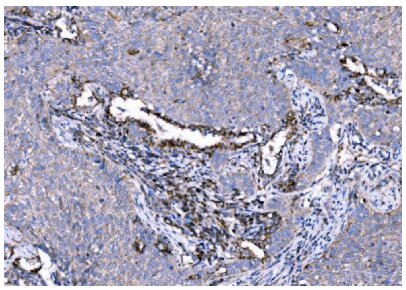
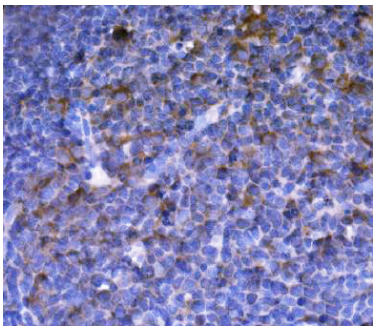


IHC analysis of HTR1A using anti-HTR1A antibody (PA1647). HTR1A was detected in a paraffin-embedded section of human endometrial adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HTR1A Antibody (PA1647) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of HTR1A using anti-HTR1A antibody (PA1647). HTR1A was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HTR1A Antibody (PA1647) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of HTR1A using anti-HTR1A antibody (PA1647). HTR1A was detected in a paraffin-embedded section of rat lymphaden tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-HTR1A Antibody (PA1647) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

Anti-5HT1A Receptor/HTR1A Antibody

For Research Use Only. Not for use in diagnostic procedures.