

Anti-GABRB3 Picoband Antibody

Catalog # ABO12281

Specification

Anti-GABRB3 Picoband Antibody - Product Information

ApplicationWBPrimary AccessionP28472HostRabbitReactivityHuman, Mouse, RatClonalityPolyclonalFormatLyophilizedDescriptionRabbit IgG polyclonal antibody for Gamma-aminobutyric acid receptor subunit beta-3(GABRB3)detection. Tested with WB in Human; Mouse; Rat.

Reconstitution Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-GABRB3 Picoband Antibody - Additional Information

Gene ID 2562

Other Names Gamma-aminobutyric acid receptor subunit beta-3, GABA(A) receptor subunit beta-3, GABRB3

Calculated MW 54116 MW KDa

Application Details Western blot, 0.1-0.5 μg/ml, Mouse, Rat, Human

Subcellular Localization Cell junction, synapse, postsynaptic cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein.

Protein Name Gamma-aminobutyric acid receptor subunit beta-3

Contents Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen A synthetic peptide corresponding to a sequence at the C-terminus of human GABRB3 (344-375aa EKTAKAKNDRSKSESNRVDAHGNILLTSLEVH), different from the related mouse and rat sequences by five amino acids.

Purification Immunogen affinity purified.



Cross Reactivity No cross reactivity with other proteins

Storage

At -20°C for one year. After r°Constitution, at 4°C for one month. It°Can also be aliquotted and stored frozen at -20°C for a longer time.Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the ligand-gated ion channel (TC 1.A.9) family. Gamma-aminobutyric acid receptor (TC 1.A.9.5) subfamily. GABRB3 sub-subfamily.

Anti-GABRB3 Picoband Antibody - Protein Information

Name GABRB3 (HGNC:4083)

Function

Beta subunit of the heteropentameric ligand-gated chloride channel gated by gamma-aminobutyric acid (GABA), a major inhibitory neurotransmitter in the brain (PubMed:14993607, PubMed:18514161, PubMed:22243422, PubMed:22303015, PubMed:24909990, PubMed:26950270, PubMed:30602789). GABA-gated chloride channels, also named GABA(A) receptors (GABAAR), consist of five subunits arranged around a central pore and contain GABA active binding site(s) located at the alpha and beta subunit interface(s) (PubMed:24909990, PubMed:30140029, PubMed:30602789). GABAARs containing beta-3/GABRB3 subunit are found at both synaptic and extrasynaptic sites (By similarity). When activated by GABA, GABAARs selectively allow the flow of chloride anions across the cell membrane down their electrochemical gradient (PubMed:14993607, PubMed:22303015, PubMed:26950270, PubMed:30602789). Chloride influx into the postsynaptic neuron following GABAAR opening decreases the neuron ability to generate a new action potential, thereby reducing nerve transmission (PubMed:22303015, PubMed:26950270). GABAARs containing alpha-1 and beta-3 subunits exhibit synaptogenic activity; the gamma-2 subunit being necessary but not sufficient to induce rapid synaptic contacts formation (PubMed:25489750). Extrasynaptic beta-3 receptors contribute to the tonic GABAergic inhibition (By similarity). GABAARs containing alpha-1, beta-3 and epsilon subunits may also permit spontaneous chloride channel activity while preserving the structural information required for GABA-gated openings (By similarity). Beta- containing GABAARs can simultaneously bind GABA and histamine where histamine binds at the interface of two neighboring beta subunits, which may be involved in the regulation of sleep and wakefulness (PubMed:18281286, PubMed:18281286, PubMed:24909990, PubMed:35355020, PubMed:35355020, PubMed:18281286, PubMed:24909990, PubMed:35355020). Plays an important role in somatosensation and in the production of antinociception (By similarity).



Cellular Location

Postsynaptic cell membrane; Multi-pass membrane protein {ECO:0000269|PubMed:24909990, ECO:0000269|PubMed:35355020, ECO:0007744|PDB:7QN7}. Cell membrane; Multi-pass membrane protein {ECO:0000269|PubMed:24909990, ECO:0000269|PubMed:35355020, ECO:0007744|PDB:7QN7}. Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:P63079}

Anti-GABRB3 Picoband Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

Anti-GABRB3 Picoband Antibody - Images

130KD - ¹ ² 100KD -70KD -55KD - -35KD -25KD -15KD -

Anti- GABRB3 Picoband antibody, ABO12281, Western blottingAll lanes: Anti GABRB3 (ABO12281) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Mouse Brain Tissue Lysate at 50ugPredicted bind size: 54KDObserved bind size: 54KD

Anti-GABRB3 Picoband Antibody - Background

This gene encodes a member of the ligand-gated ionic channel family. The encoded protein is one the subunits of a multi-subunit chloride channel that serves as the receptor for gamma-aminobutyric acid, a major inhibitory neurotransmitter of the mammalian nervous system. And this gene is located on the long arm of chromosome 15 in a cluster with two other genes encoding related subunits of the family. It may be associated with the pathogenesis of several disorders including Angelman syndrome, Prader-Willi syndrome, nonsyndromic orofacial clefts, epilepsy and autism. Alternatively spliced transcript variants encoding distinct isoforms have been described.