

GABBR1 Blocking Peptide (N-Term)
Synthetic peptide
Catalog # BP21792a**Specification**

GABBR1 Blocking Peptide (N-Term) - Product Information

Primary Accession
Other Accession

[Q9UBS5](#)
[Q9WV18](#), [Q9Z0U4](#)

GABBR1 Blocking Peptide (N-Term) - Additional Information**Gene ID** 2550**Other Names**

Gamma-aminobutyric acid type B receptor subunit 1, GABA-B receptor 1, GABA-B-R1, GABA-BR1, GABABR1, Gb1, GABBR1, GPRC3A

Target/Specificity

The synthetic peptide sequence is selected from aa 38-52 of HUMAN GABBR1

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

GABBR1 Blocking Peptide (N-Term) - Protein Information**Name** GABBR1**Synonyms** GPRC3A**Function**

Component of a heterodimeric G-protein coupled receptor for GABA, formed by GABBR1 and GABBR2 (PubMed:[15617512](http://www.uniprot.org/citations/15617512), PubMed:[18165688](http://www.uniprot.org/citations/18165688), PubMed:[22660477](http://www.uniprot.org/citations/22660477), PubMed:[24305054](http://www.uniprot.org/citations/24305054), PubMed:[36103875](http://www.uniprot.org/citations/36103875), PubMed:[9872316](http://www.uniprot.org/citations/9872316), PubMed:[9872744](http://www.uniprot.org/citations/9872744)). Within the heterodimeric GABA receptor, only GABBR1 seems to bind agonists, while GABBR2 mediates coupling to G proteins (PubMed:[18165688](http://www.uniprot.org/citations/18165688)). Ligand

binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors, such as adenylate cyclase (PubMed:10075644, PubMed:10773016, PubMed:10906333, PubMed:24305054, PubMed:9872744). Signaling inhibits adenylate cyclase, stimulates phospholipase A2, activates potassium channels, inactivates voltage-dependent calcium-channels and modulates inositol phospholipid hydrolysis (PubMed:10075644). Calcium is required for high affinity binding to GABA (By similarity). Plays a critical role in the fine-tuning of inhibitory synaptic transmission (PubMed:9844003). Pre-synaptic GABA receptor inhibits neurotransmitter release by down-regulating high-voltage activated calcium channels, whereas postsynaptic GABA receptor decreases neuronal excitability by activating a prominent inwardly rectifying potassium (Kir) conductance that underlies the late inhibitory postsynaptic potentials (PubMed:10075644, PubMed:22660477, PubMed:9844003, PubMed:9872316, PubMed:9872744). Not only implicated in synaptic inhibition but also in hippocampal long-term potentiation, slow wave sleep, muscle relaxation and antinociception (Probable). Activated by (-)-baclofen, cgp27492 and blocked by phaclofen (PubMed:24305054, PubMed:9844003, PubMed:9872316).

Cellular Location

Cell membrane; Multi-pass membrane protein. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q9Z0U4}; Multi-pass membrane protein. Cell projection, dendrite {ECO:0000250|UniProtKB:Q9Z0U4}. Note=Colocalizes with ATF4 in hippocampal neuron dendritic membranes (By similarity). Coexpression of GABBR1 and GABBR2 is required for GABBR1 maturation and transport to the plasma membrane (PubMed:15617512). {ECO:0000250|UniProtKB:Q9Z0U4, ECO:0000269|PubMed:15617512}

Tissue Location

Highly expressed in brain (PubMed:9753614, PubMed:9844003, PubMed:9872744). Weakly expressed in heart, small intestine and uterus. Isoform 1A: Mainly expressed in granular cell and molecular layer (PubMed:9844003). Isoform 1B: Mainly expressed in Purkinje cells (PubMed:9844003). Isoform 1E: Predominantly expressed in peripheral tissues as kidney, lung, trachea, colon, small intestine, stomach, bone marrow, thymus and mammary gland (PubMed:10906333)

GABBR1 Blocking Peptide (N-Term) - Protocols

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

- [Blocking Peptides](#)

GABBR1 Blocking Peptide (N-Term) - Images

GABBR1 Blocking Peptide (N-Term) - Background

Component of a heterodimeric G-protein coupled receptor for GABA, formed by GABBR1 and GABBR2. Within the heterodimeric GABA receptor, only GABBR1 seems to bind agonists, while GABBR2 mediates coupling to G proteins. Ligand binding causes a conformation change that

triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors, such as adenylyl cyclase. Signaling inhibits adenylyl cyclase, stimulates phospholipase A2, activates potassium channels, inactivates voltage-dependent calcium-channels and modulates inositol phospholipid hydrolysis. Calcium is required for high affinity binding to GABA. Plays a critical role in the fine-tuning of inhibitory synaptic transmission. Pre-synaptic GABA receptor inhibits neurotransmitter release by down-regulating high-voltage activated calcium channels, whereas postsynaptic GABA receptor decreases neuronal excitability by activating a prominent inwardly rectifying potassium (Kir) conductance that underlies the late inhibitory postsynaptic potentials. Not only implicated in synaptic inhibition but also in hippocampal long-term potentiation, slow wave sleep, muscle relaxation and antinociception. Activated by (-)-baclofen, cgp27492 and blocked by phaclofen.

GABBR1 Blocking Peptide (N-Term) - References

- Kaupmann K.,et al.Proc. Natl. Acad. Sci. U.S.A. 95:14991-14996(1998).
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