

# GABBR1 Antibody (N-Term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP21792a

## Product Information

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<b>Application</b>	WB, E
<b>Primary Accession</b>	<a href="#">Q9UBS5</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Predicted</b>	Amphibian
<b>Host</b>	Rabbit
<b>Clonality</b>	polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB53874
<b>Calculated MW</b>	108320

## Additional Information

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<b>Gene ID</b>	2550
<b>Other Names</b>	Gamma-aminobutyric acid type B receptor subunit 1, GABA-B receptor 1, GABA-B-R1, GABA-BR1, GABABR1, Gb1, GABBR1, GPRC3A
<b>Target/Specificity</b>	This GABBR1 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 18-52 amino acids from human GABBR1.
<b>Dilution</b>	WB~~1:2000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	GABBR1 Antibody (N-Term) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	GABBR1
<b>Synonyms</b>	GPRC3A
<b>Function</b>	Component of a heterodimeric G-protein coupled receptor for GABA, formed by GABBR1 and GABBR2 (PubMed: <a href="#">15617512</a> , PubMed: <a href="#">18165688</a> ,

PubMed:[22660477](#), PubMed:[24305054](#), PubMed:[36103875](#), PubMed:[9872316](#), PubMed:[9872744](#)). Within the heterodimeric GABA receptor, only GABBR1 seems to bind agonists, while GABBR2 mediates coupling to G proteins (PubMed:[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)

## 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 adenylate cyclase. Signaling inhibits adenylate 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.

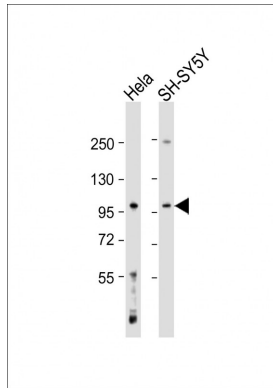
## References

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

White J.H.,et al.Nature 396:679-682(1998).  
Stropp U.,et al.Submitted (OCT-1998) to the EMBL/GenBank/DDBJ databases.  
Grifa A.,et al.Biochem. Biophys. Res. Commun. 250:240-245(1998).  
Goei V.L.,et al.Biol. Psychiatry 44:659-666(1998).

## Images

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All lanes : Anti-GABBR1 Antibody (N-Term) at 1:2000 dilution Lane 1: HeLa whole cell lysate Lane 2: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 108 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.