

## DESCRIPTION

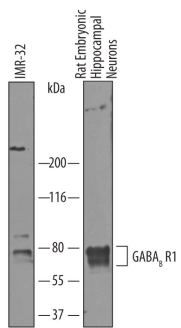
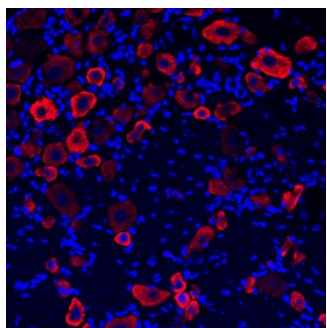
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects recombinant mouse and rat GABA <sub>B</sub> R1 in direct ELISAs and Western blots. Detects human and rat GABA <sub>B</sub> R1 in Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant rat GABA <sub>B</sub> R2 is observed.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant rat GABA <sub>B</sub> R1 Gly17-Leu586 Accession # Q9Z0U4
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

## DATA

<p><b>Western Blot</b></p>  <p><b>Detection of Human and Rat GABA<sub>B</sub> R1 by Western Blot.</b> Western blot shows lysates of IMR-32 human neuroblastoma cell line and rat embryonic hippocampal neurons. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Mouse/Rat GABA<sub>B</sub> R1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7000) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for GABA<sub>B</sub> R1 at approximately 70-80 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p><b>Immunohistochemistry</b></p>  <p><b>GABA<sub>B</sub> R1 in Rat Brain.</b> GABA<sub>B</sub> R1 was detected in perfusion fixed frozen sections of rat brain (dorsal root ganglia) using Sheep Anti-Mouse/Rat GABA<sub>B</sub> R1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7000) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Northern-Lights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to the cell bodies of dorsal root ganglia neurons. View our protocol for <a href="#">Fluorescent IHC Staining of Frozen Tissue Sections</a>.</p>
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## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

GABA<sub>B</sub> R1 (GABA-B receptor subunit 1; also GABA-BR1, GABBR1 and GB1) is a multispan member of the GABA-B receptor subfamily, GPCR-3 family of proteins. It forms an obligatory heterodimer with GABA-BR2, creating a G-protein metabotropic GABA receptor that inhibits adenylyl cyclase activity and activates K<sup>+</sup> channels. Presynaptically, this blocks neurotransmitter release; postsynaptically, it lowers neuron excitability. Rat GABA<sub>B</sub> R1 is 991 amino acids (aa) in length. It is a 7-transmembrane glycoprotein that contains a 16 aa signal sequence, an extended N-terminal extracellular region (aa 17-590) that contains two SUSHI domains (aa 29-158), and a long C-terminal cytoplasmic domain (aa 885-991). There are several splice variants with predicted molecular weights ranging from 90 to 111 kDa and multiple glycosylation sites. The 991 aa isoform described above is called GABA<sub>B</sub> R1e (R1e). There is also a 960 aa, 130 kDa isoform that shows a deletion of aa 771-801. This variant (R1a) is associated with postsynaptic membranes. A third isoform (R1b) is 844 aa in length and 100 kDa in size, and possesses both a deletion of aa 771-801, and a 47 aa substitution for aa 1-163. This variant is presynaptic in location. Two other isoforms are variants of GABA<sub>B</sub> R1b. Each show the same N-terminal substitution, with a fourth isoform (R1c) retaining aa 771-801, and a fifth isoform (R1d) deleting aa 771-801, coupled to a 25 aa substitution for aa 935-991. Over aa 17-586, rat GABA<sub>B</sub> R1e/a shares 99% aa identity with both mouse and human GABA<sub>B</sub> R1.