ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

$GABA_B$ Receptor 1b (GBR1b) Antibodies

Cat. # GBR1B11-P	Rat GBR1b Control Peptide #1	**SIZE**: 100 ug
Cat. # GBR1B11-S	**Rabbit** Anti-rat GBR1b antiserum # 1	**SIZE**: 100 ul
Cat. # GBR1B11-A	**Rabbit** Anti-rat GBR1b IgG (aff pure) # 1	**SIZE**: 100 ug

GABA (γ-amino butyric acid) is the most abundant neurotransmitter in mammalian brain. GABA exerts its effects through ionotropic ligand-gated $GABA_A$, $GABA_C$ and $GABA_B$ receptors (**$GABA_B$Rs).** Presynaptic $GABA_B$Rs inhibit neurotransmitter release by down regulating high voltage activated, Ca+2 channels, whereas postsynaptic $GABA_B$Rs decrease neuronal excitability by activating a prominent inwardly rectifying K+ (Kir) conductance that underlies the late inhibitory postsynaptic potential.

Two N-terminal splice variants **$GABA_B$R1** (also called **GBR1**), **$GABA_B$R1a** (**GBR1a**, rat 960 aa, apparent mol wt ~130 kDa; human 961 aa) and **$GABA_B$R1b** (**GBR1b**; rat 844 aa, apparent mol. wt 100 kDa; human 844) have been cloned and characterized. Human and rat GBR1a and GBR1b share 99% sequence homology. $GABA_B$Rs are characterized by the presence of a cleavable signal peptide, a large extracellular N-terminus, 7 TM domains, and C-terminal, cytoplasmic domain. $GABA_B$Rs are expressed in all major areas of the brain. Recently **$GABA_B$R2** (or **GBR2**) has been cloned from rat (940 aa) and human (941 aa). GBR2 forms heterodimer with GBR1 through interaction at the intracellular C-terminal regions. Heterodimerization appears to be important in transporting GBR1 to the membrane and expression of functional receptors. GBR2 also co-localized with GBR1.

Source of Antigen and Antibodies

Antigen	16-aa peptide of rat GBR1b **Designated (GBR1B11-P or control peptide)** conjugated to KLH; Epitope location ~N-terminus, Extracellular domain
Antibody host/type	Rabbit, polyclonal Unpurified antiserum (cat # GBR1B11-S) Aff pure IgG (**cat #GBR1B11-A**) purified over antigen-agarose column
Secondary Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
Negative Control Ab	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

Antiserum (unpurified, undiluted)

100 ul/vial solution — 50 ul/vial lyophilized powder

contains 0.05% sodium azide

Reconstitute powder 50 ul or 100 ul PBS

Affinity pure IgG

100 ug/100ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS+0.1% BSA+0.05% azide

Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS pH 7.5, contains 0.05% sodium azide

Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The 16 AA rat GBR1B11-P control peptide is 100% conserved in mouse and 93% conserved in human GBR1b. It is 100% conserved in various alternatively spliced rat GBR1b (844 aa), GBR1c (875 aa), and GBR1d (812 aa). No significant sequence homology is detected with GBR1a or GBR2 or other GABA receptors. Antibody cross-reactivity in various species has not been studied. The **GBR1B11-P,** Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1) Kaupmann K (1997) Nature 386, 239; Kaupmann K (1998) PNAS 95, 14991; Kaupmann K (1998) Nature 396, 683; White JH (1998) Nature 396, 679; Jones KA (1998) Nature 396, 674, Kuner R (1999) Science 283, 74.

Citations of ADI's antibodies for GABA

*This product is for In vitro research use only.

Related material available from ADI

Antibodies GABA-A receptors (α, β, and γ -subunits), GABAR associated protein, GBR1a, 1b, and GBR2, GABA transporters (GAT-3), and Anti-GABA antibodies.

Recycle blot in Just 5-10 min. (use the same strip for various GABA receptors) at room temp. (no boiling or pungent mercaptoethanol).

GBR1B11-S-A-P 71211J

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com