

Product Specification Sheet

GABA_B Receptor 2 (GBR2) Antibodies

Cat. # GBR22-P	Rat GBR2 Control Peptide #2	SIZE: 100 ug
Cat. # GBR22-S	Rabbit Anti-rat GBR2 antiserum #2	SIZE: 100 ul
Cat. # GBR22-A	Rabbit Anti-rat GBR2 IgG (aff pure) #2	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_BRs**). Presynaptic GABA_BRs inhibit neurotransmitter release by down regulating high voltage activated, Ca²⁺ channels, whereas postsynaptic GABA_BRs decrease neuronal excitability by activating a prominent inwardly rectifying K⁺ (Kir) conductance that underlies the late inhibitory postsynaptic potential.

Two N-terminal splice variants of **GABA_BR1** (also called **GBR1**), **GABA_BR1a** (**GBR1a**, rat 960 aa, apparent mol wt ~130 kDa; human 961 aa) and **GABA_BR1b** (**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_BRs are characterized by the presence of a cleavable signal peptide, a large extracellular N-terminus, 7 TM domains, and C-terminal, cytoplasmic domain. GABA_BRs are expressed in all major areas of the brain. Recently **GABA_BR2** (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	24-aa peptide rat GBR2 Designated (GBR22-P or control peptide/blocking peptide) conjugated to KLH, epitope location ~ C-terminus, Cytoplasmic
Antibody host/type	Rabbit, Polyclonal unpurified antiserum (# GBR22-S) and IgG, purified over antigen-agarose (Cat # GBR22-A)
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.

Form & Storage of Antibodies

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 -20oC 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

Rat GBR22-P control peptide is 100% conserved in mouse, canine, chimpanzee and human, 91% in chicken GBR2/GB2 or GABABR2 or GPR51/HG20. No significant homology is detected with GBR1 or other receptors. Antibody cross-reactivity in various species has not been studied. The **GBR22-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 et al (1997) Nature 386, 239; Kaupmann K et al (1998) PNAS 95, 14991; Kaupmann K et al (1998) Nature 396, 683; White JH et al (1998) Nature 396, 679; Jones KA et al (1998) Nature 396, 674, Kuner R et al (1999) Science 283, 74.

Citations of ADI's antibodies for GBR2 (see updates at the web site)

Olianna MC, 2005, Neurochem. Intl. 46, 149-158, WB, human brain

*This product is for In vitro research use only.

Related material available from ADI

Antibodies GABA-A receptors (α , β , and γ -subunits), GABA B and R transporters (GAT-3), and Anti-GABA antibodies.

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