ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

$GABA_B$ Receptor 2 (GBR2) Antibodies

Cat. # GBR21-P	Rat GBR2 Control Peptide #1	**SIZE**: 100 ug
Cat. # GBR21-A	**Chicken** Anti-rat GBR2 antiserum #1	**SIZE**: 100 ug
Cat. # GBR21-S	**Chicken** Anti-rat GBR2 Ig G (aff pure) #1	**SIZE**: 100 ul

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 of **$GABA_B$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	24aa peptide of rat GBR2 (Gene Accession #Q88871) **Designated (GBR21-P or control peptide). conjugated to KLH**
Location	~ C-terminus, Cytoplasmic
Ab Host/type	Chicken, polyclonal; Unpurified antiserum (cat #GBR21-S) Aff pure IgG1 (**cat #GBR21-A**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

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

The 24 AA rat GBR21-P control peptide is 100% conserved in human GBR2. A 15-aa and an 11-aa region of the 24 aa GBR21-P is also conserved in human spliced variant 1 (182 aa) and 2 (241 aa). It is not unknown If these splice variants are actually expressed and detectable with antibodies. No significant homology is detected with GBR1 or other receptors. Antibody cross-reactivity in various species has not been studied. The **GBR21-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: www.4adi.com\data\abblock.html).

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 GABA (see updated list at www.4adi.com\flr\gaba.html)

*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.

(GBR21-S-A-P . Rev. 40128S)

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