ALPHA DIAGNOSTIC INTERNATIONAL

PRODUCT SPECIFICATION SHEET

GABA Transporter (GAT1) Antibodies

Cat # GAT11-P	Rat GAT1 control peptide #1	**SIZE**: 100 ug
Cat # GAT11-S	Rabbit Anti-Rat GAT1 antiserum	**SIZE**: 100 ul
Cat # GAT11-A	Rabbit Anti-Rat GAT1, Ig G (affinity pure)	**SIZE**: 100 ug

GABA is a major inhibitory neurotransmitter and the GABAergic transmission is terminated by the rapid Na+/Cl-dependent uptake of through GABA transporters. It has been subdivided into neural and glial uptake systems on the basis of pharmacological properties. Recently, molecular cloning studies have identified multiple subtypes of GABA transporters (GAT1, GAT2, GAT3; and betaine GABA transporter (BGT-1). There is ~50% homology between various GABA transporter subtypes. GABA transporters are predicted to contain 12 potential transmembrane domains. The NH2 and COOH-termini are predicted to be intracellular. Two of the high affinity (Km~10 uM) rat GABA transporters (GAT2 and GAT3/GAT-B) share higher amino acid identity (68% and 65%, respectively) with the kidney betaine transporter than with GAT-1 (52% AA identity). GAT1 and GAT3 have been detected in various parts of the brain while GAT2 is found in many tissues. It appears that GAT1 and GAT3 are involved in distinct GABAergic transmission while GAT2 may be important in non-neural functions.

Source of Antigen, Antibodies, and Positive Controls

Antigen	A 19 AA synthetic **peptide** from rat (Accession #P23978) (1) **(designated as GAT11-P; control peptide)** conjugated to KLH; epitope location ~ middle
Antibody host/type	Rabbit, Polyclonal unpurified antiserum (Cat # GAT11-S); Rabbit, aff pure polyclonal IgG (Cat # GAT11-A), purified over antigen-Agarose
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/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

We recommend the use of 0.5-1% milk in all primary/secondary antibody-enzyme conjugate incubations in order to suppress non-specific bands.

Western Blotting 1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using Chemiluminescence technique (1-2).

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: we recommend the use of affinity purified antibody at 2-10 ug/ml in paraformaldehyde fixed sections of tissues. Neat serum can be used at 1:500 or more (1-2)

Specificity & Cross-reactivity

The 19 AA GAT11-P peptide sequence was found to be unique to GAT1 without significant homology to any other known eukaryotic protein. It is 100% homologous in Mouse, Rat and Human GAT1 **(1).** Actual species cross-reactivity of antibodies in various species has not been studied. 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:
Liu, Q. R. et al (1992) *Proc. Natl. Acad. Sci. USA* **89**:6639-6643; Nelson, H. et al (1990) *FEBS Lett.* **269**: 181-184; Gaustella, J. et al (1990) *Science* **249**: 1303-1306
(1) Ahn, J. et al (1996) *J. Biol. Chem.* **271**: 6917-6924

**This product is for In vitro research use only.*

Related material available from ADI

★**Transporters** For GABA ★ Glutamate ★ Serotonin ★ VMAT1/2 ★ Proline ★ Dopamine, NET, Creatine,

GAT11-S-A-P 71211J

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com