

Product Specification Sheet

Vesicular GABA Transporter (VGAT) Antibodies

<input type="checkbox"/> Cat. VGAT11-S	Rabbit Anti-Rat VGAT antiserum	SIZE: 100 ul
<input type="checkbox"/> Cat. VGAT11-A	Rabbit Anti-Rat VGAT IgG (aff pure)	SIZE: 100 ug
<input type="checkbox"/> Cat. VGAT11-P	Rat VGAT Control/blocking peptide	SIZE: 100 ug

Classical neurotransmitters are synthesized in the cytoplasm, and so must be transported into synaptic vesicles for a regulated exocytosis of vesicles filled with neurotransmitter. Although the vesicular transporters for monoamines and acetylcholine have been identified, the proteins responsible for packaging the primary inhibitory and excitatory transmitters, gamma-aminobutyric acid (GABA) and glutamate have only recently been identified. Studies in the nematode *Caenorhabditis elegans* have implicated the gene *unc-47* in the release of GABA. Recently, rat homolog of *unc-47* has been cloned and characterized. Rat **VGAT**, a 525 aa membrane protein with ten transmembrane domains, is expressed by central GABA neurons. Both N and C-termini are predicted to be cytoplasmic. Rat VGAT and *unc-47* share ~38% sequence identity. Rat VGAT is primarily expressed in the brain.

Source of antigen and antibodies

Antigen	17-aa peptide of Rat VGAT Designated (VGAT11-P or control peptide /blocking peptide) conjugated to KLH; epitope location ~ C-terminus, Cytoplasmic domain
Antibody host/type	Rabbit, Polyclonal unpurified antiserum (#VGAT11-S) and IgG, purified over antigen-agarose (Cat # VGAT11-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, 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
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 µg/ml for affinity pure using Chemiluminescence technique). Rat brain VGAT is ~55-60 kDa (1).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: This antibody has been used for IHC by Redecker et al (2).

Specificity & Cross-reactivity

The rat VGAT11-P peptide sequence is 100% conserved in human, mouse and monkey VGAT. No significant sequence homology exists with other transporters. Antibody cross-reactivity 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:

1 McIntire, S.L. et al. (1997) *Nature* 389, 870-876; Chaudhry FA (1998) *J Neurosci.* 18, 9733-9750; Sagne C. et al (1997) *FEBS Lett.* 417, 177-183, Redecker P et al (2001) *Neuroscience Lett.*, 299, 93-96

Citations of ADI's antibodies for Transporters (see updated list at: www.4adi.com/flr/vmat.html)

Redecker, P, 2003, *J. Histochem. Cytochem.* 51: 809-819, IHC, Redecker, P., 2001, *Neuroscience Letters*, 299, 93-96, IHC, Ma J, 2003, *Neuroscience*, 121, 991-998, IHC, 4% PF

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

Related material available from ADI:

Creatine Transporter; GAT1-3; GABA Transporter; Bombesin Receptor; Betaine/GABA Transporter etc.

VGAT11-SA-P 121205A

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