ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Glutamate Transporter (GLT1/EAAT2) Antibodies

Cat # GLT11-P	Rat GLT1 control peptide	**SIZE**: 100 ug
Cat # GLT11-S	Rabbit Anti-Rat Rat GLT1 antiserum	**SIZE**: 100 ul
Cat # GLT11-A	Rabbit Anti-Rat Rat GLT1 IgG, aff pure	**SIZE**: 100 ug

Glutamate is the main excitatory neurotransmitter in the brain. To date five glutamate Transporters have been cloned: **GLAST (EAAT1), GLT1 (EAAT2), EAAC1 (EAAT3), EAAT4, and EAAT5**. These transporters are believed to be critical in reducing potentially toxic extracellular concentration of glutamate by rapid uptake into nerve terminals and glial cells. Glutamate transporters (525-573 AA) display about 55% homology and are predicted to contain up to 6-10 transmembrane domains. GLT1 (also known as Excitatory Amino acid Transporter 2, EAT2; or Sodium-dependent glutamate/Aspartate transporter 2) is a glutamate transporter. It is a 573 amino acid (67 kDa) transmembrane protein (1). Immunolocalization studies indicate that **GLT1** is localized in astroglial cells throughout the brain and spinal cord.

Source of Antigen and Antibodies

Antigen	16-aa peptide from **rat GLt1 (1)**; (Gene Accession#P31596) **Designation (# GLT11-P, control/blocking peptide**) conjugated to KLH. **Epitope location** ~ N-terminus Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**GLT11**-S) and IgG, purified over antigen-agarose (Cat # **GLT11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (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 antiserum and 1-10 ug/ml for affinity pure IgG using Chemiluminescence technique. This antibody has been refererecnced in many studies (2).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies).

Histochemistry & Immunofluorescence: We recommend the use of affinity purified IgG at 2-10 ug/ml (see published refs 2 using this antibody).

Specificity & Cross-reactivity

The rat GLT11-P peptide is 100% conserved in mouse and 81% conserved in human. The GLT11-P has no significant sequence homology to other glutamate transporters. Antibody crossreactivity in various species is not established. 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).** Pines, G. (1992) Nature 360:464-467; Kanner, BI (1993) FEBS Lett. 325, 95-99; Zhang, Y. (1994) J. Biol. Chem. 269:19573-19577; Grunewald, M. and Kanner, B. (1995) J. Biol. Chem. 270:17017-17024; Arriza, J. L. (1994) J. Neurosci 14:5559-5569; Krischner, M. A. (1994) Genomics 24:218-224;

(2) Citations of ADI's Antibodies (see web site for updated list)

Ueda Y, 2000, Exp. Brain Res. 133, 334-340, WB,,
Voutsinos-Porche, 2003, Neuron, 37, 275-286, WB, IHC
Rodriguez-Kern A, 2003, Neurochemistry Intl. 43, 363-370, WB,
Yang Y, 2004, J. Neurochem.,; 88: 1361 - 1372., WB,,
Ueda Y et al, 2001, J. Neurochem. 2001 76: 892-900, WB,,
Levenson J, 2002, Nature Neuroscience 5, 155 - 161, WB,,
Samuelsson C, 2000, Neurosci. lett. 289, 185-188, ,
Li, Shuxin, 1999, J. Neurosci. 99, RC16, 1-9, , IHC,
Ueda Y, 2002, Mol. brian. Res. 104, 120-126, WB,,
Palos, Teresa P., 1999, J. Neurochemistry 73, 1012, WB,, IHC,

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

Related material available from ADI

GLT11-S-A-P	71226S

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