ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Excitatory Amino Acid Transporter 5 (EAAT5) Antibodies

Cat # EAAT51-P	Human EAAT5 control peptide	**SIZE**: 100 ug
Cat # EAAT51-S	Rabbit Anti-Human EAAT5 antiserum	**SIZE**: 100 ul
Cat # EAAT51-A	Rabbit Anti-Human EAAT5 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. Immunolocalization studies indicate that **GLT1** is localized in astroglial cells throughout the brain and spinal cord. **EAAC1** is specific for certain neurons and purkinje cells, and specifically enriched in cortex, hippocampus, and caudate-putamen and confined to presynaptic and postsynaptic elements. It is also expressed in kidney, heart, lung and muscle. **GLAST** has been observed in both neuron and astroglia. It is most abundant in Bergmann glia, cortex, hippocampus and cerebellum. **EAAT4** has properties of ligand gated Cl-channel. It is localized mainly in cerebellar Purkinje cells in rat and human CNS. **EAAT5** has only been cloned from human. It is primarily expressed in retina.
Human EAAT5 glutamate transporter is a 560 amino acid transmembrane protein. It is expressed predominantly in the retina.

Source of Antigen and Antibodies

Antigen	21AA synthetic **peptide (designated EAAT51-P; control peptide)** was synthesized conjugated to KLH. **Epitope location** ~ C-terminus (cytoplasmic)
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (**cat # EAAT51-S**),and Aff pure IgG1 (**cat # EAAT51-A**) purified over the antigen column
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 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C 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 IgG using Chemiluminescence 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 IgG at 2-10 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The human EAAT51-P peptide is 88% conserved in mouse, and 71% in salamander. EAAT5 from other species in not yet cloned. The EAAT51-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. Arizza JL et al (1997) PNAS 94, 4155-4160.

Citations of ADI's antibodies for Glutamate related products (see updated list at:the web site)

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

Related material available from ADI

Anti-GLAST, EAAC1, GLT1, EAAt4, EAAT5, GTRAP41, GTRAP48, VGLUT1/BNPI, VGLUT-2/DNPI & GABA Transporters (GAT1-3)

EAAT51-S-A-P 71226S

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