

Product Specification Sheet

**Excitatory Amino Acid Transporter 5 (EAAT5) Antibodies**

<b>Cat #</b> EAAT51-P	Human EAAT5 control peptide	<b>SIZE:</b> 100 ug
<b>Cat #</b> EAAT51-S	Rabbit Anti-Human EAAT5 antiserum	<b>SIZE:</b> 100 ul
<b>Cat #</b> EAAT51-A	Rabbit Anti-Human EAAT5 IgG, aff pure	<b>SIZE:</b> 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**

<b>Antigen</b>	21AA synthetic <b>peptide (designated EAAT51-P; control peptide)</b> was synthesized conjugated to KLH. <b>Epitope location</b> ~ C-terminus (cytoplasmic)
<b>Ab Host/type</b>	Rabbit, polyclonal Unpurified antiserum ( <b>cat # EAAT51-S</b> ), and Aff pure IgG1 ( <b>cat # EAAT51-A</b> ) purified over the antigen column
<b>2-ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
<b>-ve control</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Antisera (unpurified) / Peptide Control**

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 is 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)

**Related material available from ADI**

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

Anti-GLAST, EAAC1, GLT1, EAAT4, EAAT5, GTRAP41, GTRAP48, VGLUT1/BNPI, VGLUT-2/DNPI & GABA Transporters (GAT1-3)

EAAT51-S-A-P

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