

Product Specification Sheet

**Glutamate Transporter Antibodies (EAAC1/EAAT3)**

<b>Cat #</b> EAAC11-P	Rat EAAC1 control/blocking peptide	<b>SIZE:</b> 100 ug
<b>Cat #</b> EAAC11-S	Rabbit Anti-Rat EAAC1 antiserum	<b>SIZE:</b> 100 ul
<b>Cat #</b> EAAC11-A	Rabbit Anti-Rat EAAC1 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. **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<sup>-</sup> 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.

EAAC1 glutamate transporter is a 523 amino acid (69 kDa) transmembrane protein (1). It is also known as glutamate transporter MEAAC1 in mice, REAAC1 in rat, EAT3 (Excitatory amino acid transporter 3/EAAT3) in rabbit, neuron specific glutamate transporter or high affinity glutamate transporter or EAT3 in human.

**Source of Antigen and Antibodies:**

<b>Antigen</b>	14aa peptide of rat EAAC1 <b>Designated (EAAC11-P or control peptide)</b> . <b>Epitope location</b> ~ C-terminus, cytoplasmic
<b>Ab Host/type</b>	Rabbit, polyclonal, Unpurified antiserum ( <b>cat #EAAC11-S</b> ) Aff purified IgG, purified over the antigen-agarose ( <b>cat #EAAC11-A</b> )
<b>2ab</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

**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 antibody using Chemiluminescence technique (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:** not tested. we recommend the use of affinity purified IgG at 2-10 ug/ml in paraformaldehyde fixed sections of tissues (2).

**Specificity & Cross-reactivity**

The rat EAAC11-P peptide is unique to EAAC1 without significant homology to other glutamate transporters. It is 100% homologous in Mouse, Rat, rabbit, and Human. 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:** Kiryu, S. et al (1995) J. Neurosci. 15:7872-7878; Kanai, Y. et al. (1994) J. Biol. Chem. 269:20599-20606; Mukainaka, Y. et al (1995) Biochim. Biophys. Acta 1244:233-237, Rothstein, J. D. et al (1994) Neuron 13:713-725; Rothstein, J. D. et al (1995) Ann Neurol. 38:73-84.

**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.*

EAAC11-S-A-P 71226S

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 2 4 4 , U S A ;

**India Contact:**

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)