

EAAT1 Blocking Peptide

Catalog Number: P-EAAT1

Lot Number:

General Information

Product	EAAT1 Blocking Peptide
Description	Excitatory Amino Acid Transporter 1 Antigenic Blocking Peptide
Accession #	Uniprot: P56564 NCBI: NP_683740.1
Verified Applications	ELISA, IHC, WB
Immunogen	Synthetic peptide corresponding to C terminal amino acids 480-543 of Mouse EAAT1 protein. The selected peptide was post-synthetically modified to achieve highest antigenicity before coupling to carrier protein using heterobifunctional cross linker for immunogen preparation.
Alternative Nomenclature	Sequence: KPYQLIAQDNEPEKPVADSETK EA6 antibody, GLAST antibody, Glial high affinity glutamate/aspartate transporter, high affinity, sodium-dependent antibody, High affinity neuronal glutamate transporter antibody, Solute carrier family 1 member 3 antibody

Physical Properties

Quantity	100 µg
Volume	250 µl
Form	Synthetic Peptide
Storage	Store at -20°C for long term storage.

Recommended Dilutions

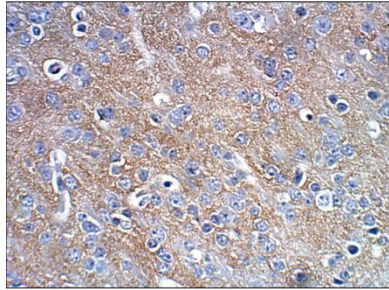
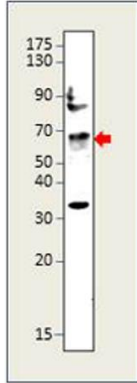
Immunohistochemistry	1:200
Western Blot	1:500

Related Products

Catalog

Affinity Purified	EAAT1-101AP
BIOTIN-Conjugated	EAAT1-BIOTIN
FITC-Conjugated	EAAT1-FITC
Western Blot Positive Control	PC-EAAT1

Application Verification:



WB of EAAT1-101AP with PC-EAAT1. 1:500 antibody dilution in DiluObuffer. Apparent MW is 68 kDa.

Baboon Brain- EAAT1
Primary Antibody: EAAT1-101AP; 1:100 dilution in IHC Blocking Buffer. DAB (brown) staining and Hematoxylin QS (blue) counterstain. 40X magnification on Leica DM4000. FFPE section.

Dilutions are for reference only. Applications not listed above are not necessarily precluded from working with this antibody. Investigators intending to use an application that has not been verified can request a complimentary sample.

Overview:

EAAT1 belongs to a family of excitatory amino acid transporters that regulates synaptic glutamate levels (1). The glutamate/neutral amino acid transporter family, also known as solute carrier family 1 (SLC1), includes many prokaryotic transporters as well as five excitatory amino acid transporters (EAAT) and two Na⁺-dependent neutral amino acid transporters (2). The EAAT transporters are regulated by N-glycosylation, a post-translational modification critical for many cellular functions. The EAAT1 transporter, also known as GLAST, in rat has two isoforms differing only in their position of glycosylation (2). Defects in the position of glycosylation have been reported in cases of schizophrenia and hence this post-translational modification is a very important step in functioning of this protein. They transport extracellular glutamate out of the synapse and thus they are critical for glutamatergic signaling. These are expressed throughout the cortex in astroglia (2).

Glutamate transporters have a non-conventional topology. The amino-terminal half consists of six transmembrane domain segments and the carboxy-terminal consists of two re-entrant loops and two transmembrane domains (TMD7 and TMD8). The carboxy-terminal domain is the most conserved domain. Many residues of the carboxy-terminal were found to be important for substrate and co-substrate binding and translocation. The first six transmembrane segments, which are less conserved, form a distorted 'amino-terminal cylinder' and provide all inter-protomer contacts, whereas the conserved transmembrane segments TMD7 and TMD8, together with hairpins HP1 and HP2, form the binding pocket (2).

EAAT1- selective antibodies were generated against a peptide taken from the C-terminal end of mouse EAAT1 protein. The EAAT1-selective antibodies are affinity purified on an immobilized antigen based affinity matrix; the isolated antibodies were then stabilized in antibody stabilization buffer for long-term storage. Western blot positive control (PC-EAAT1) and antigenic blocking peptides (P-EAAT1) are available. Antibodies can be conjugated to secondary enzymes or fluorophores upon request at nominal cost. For a complete listing of all FabGennix antibodies and services please visit <http://fabgennix.com>.

References:

1. Deborah Bauer et.al. Abnormal Glycosylation of EAAT1 and EAAT2 in Prefrontal Cortex of Elderly Patients with Schizophrenia. Published online 2009 August 27.
2. Xiuping Zhang and Shaogang Qu. The Accessibility in the External Part of the TM5 of the Glutamate Transporter EAAT1 Is Conformationally Sensitive during the Transport Cycle. PLoS One. 2012; 7(1)

For users who may require large amounts please inquire about bulk material discounts.

This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.