

DESCRIPTION

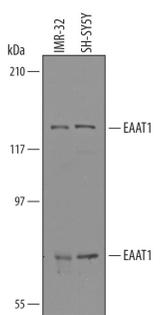
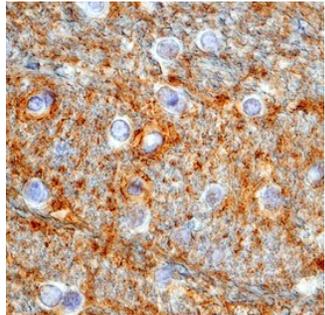
Species Reactivity	Human
Specificity	Detects human EAAT1/GLAST-1 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human EAAT1/GLAST-1 His146-Ser237 Accession # P43003
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human EAAT1/GLAST-1 by Western Blot. Western blot shows lysates of IMR-32 human neuroblastoma cell line and SH-SY5Y human neuroblastoma cell line. PVDF Membrane was probed with 1 µg/mL of Sheep Anti-Human EAAT1/GLAST-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6048) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). Specific bands were detected for EAAT1/GLAST-1 at approximately 60 and 120 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>EAAT1/GLAST-1 in Human Brain. EAAT1/GLAST-1 was detected in immersion fixed paraffin-embedded sections of human brain (caudate nucleus) using Sheep Anti-Human EAAT1/GLAST-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF6048) at 3 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to neuronal processes and presynaptic profiles. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

GLAST-1 (Sodium dependent GLU/ASp Transporter 1; also SLC1A3 and EAAT1) is a 60-62 kDa member of the SDF symporter family of molecules. It is expressed by glia, fibroblasts, and select neuron cell types such as hippocampal neurons. EAAT1 is known to transport L-glutamate into glia, thus removing glutamate from synaptic areas where it either acts too long, or becomes toxic at elevated concentration. Its action is dependent on its ability to cotransport sodium. Human EAAT1 is a 542 amino acid (aa), 8-transmembrane variably glycosylated protein that contains N- and C-terminal cytoplasmic domains. Homodimers are reported to exist, but only when EAAT1 shows glycosylation. There are at least two potential isoform variants. One shows an Arg substitution for aa 430-475, while a second shows a four aa substitution for aa 62-542. Over an extracellular loop that encompasses aa 146-237, human EAAT1 shares 92% aa identity with mouse EAAT1.