SANTA CRUZ BIOTECHNOLOGY, INC.

EAAT2 (E-1): sc-365634

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Excitatory amino acid transporter 1 (EAAT1) is one of the two glial glutamate transporters that clear the extracellular glutamate generated during neuronal signal transmission. Excitatory amino acid transporters (EAATs) are membrane-bound proteins that are localized in glial cells and pre-synaptic glutamatergic nerve endings. EAATs transport the excitatory neurotransmitters L-glutamate and D-aspartate, a process that is essential for terminating the postsynaptic action of glutamate. The reuptake of amino acid neurotransmitters by EAAT proteins has been shown to protect neurons from excitotoxicity, which is caused by the accumulation of amino acid neurotransmitters. Three glutamate transporters have been identified in human brain, designated EAAT1-3. EAAT1 and EAAT3 are also expressed in various non-nervous tissues, while EAAT2 expression appears to be restricted to the brain. Surface expression of the glial glutamate transporter EAAT1 is stimulated by Insulin-like growth factor 1 through activation of phosphatidylinositol-3-kinase.

CHROMOSOMAL LOCATION

Genetic locus: SLC1A2 (human) mapping to 11p13; Slc1a2 (mouse) mapping to 2 E2.

SOURCE

EAAT2 (E-1) is a mouse monoclonal antibody raised against amino acids 1-85 mapping near the N-terminus of EAAT2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EAAT2 (E-1) is available conjugated to agarose (sc-365634 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365634 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365634 PE), fluorescein (sc-365634 FITC), Alexa Fluor® 488 (sc-365634 AF488), Alexa Fluor® 546 (sc-365634 AF546), Alexa Fluor® 594 (sc-365634 AF594) or Alexa Fluor® 647 (sc-365634 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365634 AF680) or Alexa Fluor® 790 (sc-365634 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EAAT2 (E-1) is recommended for detection of EAAT2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

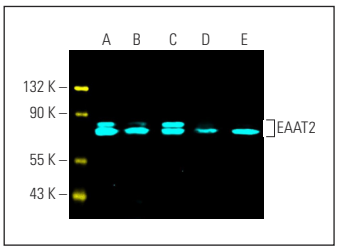
Suitable for use as control antibody for EAAT2 siRNA (h): sc-35255, EAAT2 siRNA (m): sc-35256, EAAT2 siRNA (r): sc-270106, EAAT2 shRNA Plasmid (h): sc-35255-SH, EAAT2 shRNA Plasmid (m): sc-35256-SH, EAAT2 shRNA Plasmid (r): sc-270106-SH, EAAT2 shRNA (h) Lentiviral Particles: sc-35255-V, EAAT2 shRNA (m) Lentiviral Particles: sc-35256-V and EAAT2 shRNA (r) Lentiviral Particles: sc-270106-V.

Molecular Weight of EAAT2: 70 kDa.

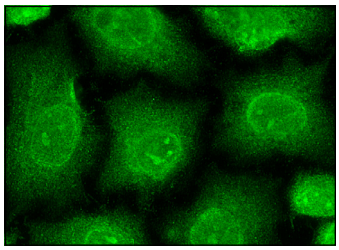
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



EAAT2 (E-1) Alexa Fluor® 647: sc-365634 AF647. Direct fluorescent western blot analysis of EAAT2 expression in HT-1080 (**A**), SH-SY5Y (**B**) and U-87 MG (**C**) whole cell lysates and rat brain (**D**) and mouse brain (**E**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 488: sc-516790.



EAAT2 (E-1): sc-365634. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Yao, J., et al. 2015. Rosiglitazone exerts neuroprotective effects via the suppression of neuronal autophagy and apoptosis in the cortex following traumatic brain injury. Mol. Med. Rep. 12: 6591-6597.
2. Wang, Y., et al. 2017. Sonic hedgehog induces GLT-1 degradation via PKC δ to suppress its transporter activities. Neuroscience 365: 217-225.
3. Germany, C.E., et al. 2018. Pharmacoproteomics profile in response to acamprosate treatment of an alcoholism animal model. Proteomics 18: e1700417.
4. Bacci, M., et al. 2019. Reprogramming of amino acid transporters to support aspartate and glutamate dependency sustains endocrine resistance in breast cancer. Cell Rep. 28: 104-118.e8.
5. Wilkie, C.M., et al. 2020. Hippocampal synaptic dysfunction in a mouse model of Huntington disease is not alleviated by ceftriaxone treatment. eNeuro 7: ENEURO.0440-19.2020.
6. Yoshino, K., et al. 2020. The alterations of glutamate transporter 1 and glutamine synthetase in the rat brain of a learned helplessness model of depression. Psychopharmacology 237: 2547-2553.
7. Castañeda-Cabral, J.L., et al. 2020. The neonatal excitotoxic process modifies the protein expression levels of EAAT1 (GLAST) and EAAT2 (GLT-1) in various brain regions of the adult rat brain. Neurosci. Lett. 735: 135237.
8. Li, W., et al. 2020. Effects of combined Bushen Zhichan recipe and levodopa in a rodent model of Parkinson disease: potential mechanisms. Med. Sci. Monit. 26: e922345.

RESEARCH USE

For research use only, not for use in diagnostic procedures.