Revision 3

Store at -20C

#3838

EAAT2 Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	M R	Endogenous	65	Rabbit	#P43004	6506

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

EAAT2 Antibody detects endogenous levels of total EAAT2 protein.

Species predicted to react based on 100% sequence homology

Human

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp505 of human EAAT2 protein. Antibodies are purified by peptide affinity chromatography.

Background

Glutamate is the major excitatory neurotransmitter in the mammalian central nervous system. During neurotransmission, glutamate is released from vesicles of the pre-synaptic cell, and glutamate receptors (e.g., NMDA Receptor, AMPA Receptor) bind glutamate for activation at the opposing post-synaptic cell. Excitatory amino acid transporters (EAATs) regulate and maintain extracellular glutamate concentrations below excitotoxic levels. In addition, glutamate transporters may limit the duration of synaptic excitation by an electrogenic process in which the transmitter is cotransported with three sodium ions and one proton, followed by countertransport of a potassium ion. Five EAATs (EAAT1-5) are characterized: EAAT2 (GLT-1) is primarily expressed in astrocytes but is also expressed in neurons of the retina and during fetal development (1). Homozygous EAAT2 knockout mice have spontaneous, lethal seizures and an increased predisposition to acute cortical injury (2). PKC phosphorylates Ser113 of EAAT2 and coincides with glutamate transport (3).

Background References

1. Amara, S.G. and Fontana, A.C. (2002) *Neurochem Int* 41, 313-8.
2. Tanaka, K. et al. (1997) *Science* 276, 1699-702.
3. Casado, M. et al. (1993) *J Biol Chem* 268, 27313-7.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

M: Mouse **R:** Rat

Trademarks and Patents

Limited Uses

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