Revision 5

Store at -20C

#14501

EAAT3 (E1E6M) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-F, IF-IC	H M R	Endogenous	70	Rabbit IgG	#P43005	6505

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Frozen)	1:800
Immunofluorescence (Immunocytochemistry)	1:1600 - 1:6400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #30102.

Specificity/Sensitivity

EAAT3 (E1E6M) Rabbit mAb recognizes endogenous levels of total EAAT3 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val510 of human EAAT3 protein.

Background

During neurotransmission, glutamate is released from vesicles of the presynaptic cell, and glutamate receptors (e.g., NMDA Receptor, AMPA Receptor) bind glutamate for activation at the opposing postsynaptic cell. Excitatory amino acid transporters (EAATs) regulate and maintain extracellular glutamate concentrations below excitotoxic levels (1,2). 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 (1,2). Five EAATs (EAAT1-5) have been identified. EAAT1 and EAAT2 are expressed mainly in glia, while EAAT3, EAAT4, and EAAT5 are considered to be neuronal transporters (2). EAAT3 is found in the perisynaptic areas and cell bodies of glutamatergic and GABAergic neurons (3). Research studies have implicated abnormal EAAT3 expression in the pathophysiology of Schizophrenia (4,5).

Background References

1. Danbolt, N.C. (2001) *Prog Neurobiol* 65, 1-105.
2. Amara, S.G. and Fontana, A.C. (2002) *Neurochem Int* 41, 313-8.
3. Rothstein, J.D. et al. (1994) *Neuron* 13, 713-25.
4. Bauer, D. et al. (2008) *Schizophr Res* 104, 108-20.
5. Horiuchi, Y. et al. (2012) *Am J Med Genet B Neuropsychiatr Genet* 159B, 30-7.

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 **IP:** Immunoprecipitation **IF-F:** Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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Limited Uses

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