

Qty: 100 µg/200 µl

Mouse anti-Glutamate

Transporter EAAC1

Catalog No. 32-1000

Lot No.

Mouse anti-Glutamate Transporter EAAC1

FORM

The antibody is supplied as a 200 µl aliquot at a concentration of 0.5 mg/ml in PBS, pH 7.4, containing 0.1% sodium azide. This monoclonal antibody is highly purified from mouse ascites by protein A chromatography.

CLONE: 35-A9⁽¹⁾ **ISOTYPE:** IgG_{2b}

IMMUNOGEN

Synthetic peptide corresponding to amino acids 161-177 of the rat glutamate transporter EAAC1 sequence.

SPECIFICITY

This antibody specifically recognizes the ~70 kDa glutamate transporter EAAC1. Cross reactivity with other related proteins has not been observed.

REACTIVITY

This antibody reacts with rat and human glutamate transporter EAAC1. Reactivity with other species has not been evaluated.

Sample	ELISA	Immuno-precipitation (native)	Western Blotting	Vibratome Sections
Human			+	+
Rat		+	+	+
Immunogen	+			

USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

ELISA: 0.1-1 µg/ml
Immunoprecipitation: 1-5 µg/IP reaction
Western Blotting: 1-5 µg/ml

The use of this antibody in applications other than those listed above has not been evaluated.

STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long term storage. Avoid repeated freezing and thawing.

BACKGROUND⁽²⁻³⁾

L-glutamate is the major excitatory neurotransmitter in mammalian central nervous systems. To maintain glutamate levels below excitotoxic levels, excess glutamate at excitatory synaptic clefts is removed by ion-coupled glutamate transporters. Four glutamate transporters have been identified: the sodium-dependent GLAST-1, GLT-1, EAAC-1 and the chloride-dependent EAAT-4. EAAC-1 is expressed in the CNS and also found in kidney and small intestine. Structural features of glutamate transporters⁽²⁾ are believed to include eight membrane-spanning alpha-helices and a loop-pore structure which is unique among secondary transporters but may resemble loop-pores found in ion channels. A second distinctive structural feature is the presence of a highly amphipathic membrane-spanning helix that provides a hydrophilic path through the membrane. Mice with homozygous deletions of the EAAC-1 transporter gene⁽³⁾ develop dicarboxylic aminoaciduria and display reduced spontaneous locomotor activity although no neurodegeneration was observed over a period of 12 months.

(cont'd)

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PI321000

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REFERENCE

1. Shashidharan, P, et al., Immunohistochemical localization of the neuron-specific glutamate transporter EAAC1 (EAAT3) in rat brain and spinal cord revealed by a novel monoclonal antibody. *Brain Research* 773:139, (1997).
2. Slotboom DJ, et al., Structural features of the glutamate transporter family. *Microbiol Mol Biol Rev.* 63(2):293-307 (1999).
3. Peghini P, et al., EMBO J., Glutamate transporter EAAC-1-deficient mice develop dicarboxylic aminoaciduria and behavioral abnormalities but no neurodegeneration. 16(13):3822-32 (1997).

RELATED PRODUCTS

Product	Clone/PAD*	Cat. No.
Rb x NMDA NR1 splice variant N1	TNRN1	51-4300
Rb x NMDA NR1 splice variant C1	TNRC1	51-4400
Rb x NMDA NR1 splice variant C2	TNRC2	51-4500
Rb x NMDA NR1 splice variant C2"	TNRC22	51-4600
Rb x NMDA-Receptor 1	2NR2	51-3600
Ms x NMDA-Receptor 1	54.1	32-0500
Ms x NMDA-Receptor 1A + 1D	5C4	32-0800
Ms x NMDA-Receptor 2A	A3-2D10	32-0600
Ms x NMDA-Receptor 2B	B3-13B11	32-0700
Rb x NMDA Receptor 2B	ZK11	71-8600
Ms x GluR1, 2 and 3	2D8	32-0100
Ms x GluR2	6C4	32-0300
Ms x GluR2 and 4	3A11	32-0200
Ms x GluR3	3B3	32-0400
Rb x mGluR4	ZTS4	51-3100
Ms x α -CaM Kinase II	CB α -2	13-7300
Ms x β -CaM Kinase II	CB β -1	13-9800
Sheep x Dopamine β -Hydroxylase	--	51-5500
Ms x Dopamine Receptor 3	38A	32-0900
Rb x Glycine Receptor	--	51-5300
Ms x Nitrotyrosine	HM11	32-1900
Rb x Serotonin	--	18-0077
Rb x Synapsin-1	--	51-5200
Rb x Synaptophysin	Z66	18-0130
Ms x Tyrosine Hydroxylase	1hy1	32-2100
Ms x Ubiquitin	Ubi-1	13-1600

*PAD-Polyclonal Antibody Designation

Product	Conjugate	Cat. No.
Protein A	Sepharose [®] 4B	10-1041
rec-Protein G	Sepharose [®] 4B	10-1241

Conjugate	ZyMAX[™] Goat x Rabbit IgG (H+L)	ZyMAX[™] Goat x Mouse IgG (H+L)
Purified	81-6100	81-6500
FITC	81-6111	81-6511
TRITC	81-6114	81-6514
Cy [™] 3	81-6115	81-6515
Cy [™] 5	81-6116	81-6516
HRP	81-6120	81-6520
AP	81-6122	81-6522
Biotin	81-6140	81-6540

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