

Product Specification Sheet

Taurine Transporter (TAU1) Antibodies

Cat. TAU11-S	Rabbit Anti-rat Tau1 antiserum	SIZE: 100 ul
Cat. TAU11-A	Rabbit Anti-rat Tau1 IgG (affinity pure)	SIZE: 100 ug
Cat. TAU11-P	Rat Tau1 control/blocking peptide	SIZE: 100 ug

Taurine (2-aminoethane sulfonic acid), a beta-amino acid with a negatively charged sulfonic group is one of the most abundant amino acid in the brain. It is particularly enriched (milimolar conc.) in excitable tissues, particularly those that generate oxidants. Taurine is produced by cysteine metabolism and obtained from diet as well. It is chemically inert molecule with a long turnover rate. It is not incorporation into proteins. It is thought to pay a major role in osmoregulation. It is also postulated to play a critical role in neurotransmission, neuromodulation, and membrane stabilization, neuronal differentiation, migration, synaptogenesis, and development. Taurine is transported to various target tissues by Na-dependent high affinity uptake system carried out two distinct membrane transporter proteins: a high affinity (Km 40 uM) taurine transporter (TAU-1 or TAUT-1) (1) and a beta-alanine and taurine transporter protein (Km 4.5 uM) known as TAUT-2 (2). Both TAUT-1/2 share significant sequence homology with the GABA and Glycine transporters that are characterized by the presence of 12 transmembrane domains. Taurine transporters are found in brain, retina and many other tissues.

FUNCTION: Required for the uptake of taurine.

SUBCELLULAR LOCATION: Membrane; Multi-pass membrane protein.

SIMILARITY: Belongs to the sodium:neurotransmitter symporter (SNF) family.

Protein name Sodium- and chloride-dependent taurine transporter

Gene name Name: Slc6a6

Source of antigen and antibodies

Antigen	20-aa peptide of Rat TAU1/Slc6a6 (protein accession #P31643 , refs 1) Designated (TAU11-P or control peptide or blocking peptide) conjugated to KLH; Epitope location ~C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal Aff pureIgG, purified (Cat # TAU11-A) over antigen-agarose
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). Tau-1 is approx 65-70 kDa (see refs 2)

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: We recommend the use of affinity-purified antibody at 2-20 ug/ml (see refs 2).

Specificity & Cross-reactivity

The Rat TAU11-P peptide is 100% conserved in mouse, 90% in human and canine, and 78% in bovine TAU1. The peptide shows no significant homology with other related mouse TAUT-2 (2). Antibody cross-reactivity in various species is not known. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity

General References: (1). Smith, K.E. (1992) *Mol. Pharmacol.* 42, 563; Liu, Q.R (1993) 268, *JBC*, 2106; Uchida, S (1992) *PNAS USA* 89, 8230; Jhiang, S.M. (1993) *FEBS Lett.* 318, 139; (2). Liu Q-R (1992) *PNAS* 89, 12145; Pow (2002) *Glia* 37, 153.

(2) Citations of ADI's Antibodies (see web site for updated list)

Kang Y-S, 2002, *J. Neurochem.* 83: 1188-1195. WB
Janeke G, 2003, *J Invest. Dermatol.* 21, 354-361, WB, IHC
Takahashi K, 2003, *Biochem. Pharmacol.* 65, 1181-1187, WB
Shioda R, 2002, *Invest. Ophthalmol. Vis. Sci.* 43, 2916-2922
Olive, M. F, 2000, *Eur. J. Neurosc.* 12, 4131, IHC,
Bridges CC, 2002, *Am J Physiol Cell Physiol* 281: C1825-C1836, confocal microscopIHC,

*This product is for *in vitro* research use only.

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