

Product Specification Sheet

TNF- α Converting Enzyme (TACE) Antibodies

Cat. # TACE11-P	Rat TACE Control/blocking Peptide # 1	SIZE: 100 ug
Cat. # TACE11-S	Rabbit Anti- Rat TACE antiserum # 1	SIZE: 100 ul
Cat. # TACE11-A	Rabbit Anti- Rat TACE Ig G # 1 (affinity pure)	SIZE: 100 ug
Cat. # TACE11-C	Purified, recombinant Human TACE control protein for WB	SIZE: 100 ul

β -amyloid (**A β**) deposition in the brain is the hallmark of Alzheimer's Disease (**AD**). To initiate A β formation, **β -secretase** cleaves APP at the N-terminus of A β to release APPs β (~100 kDa soluble NT-fragment), and C99, a 12-kDa CT membrane fragment. Alternatively, **α -secretase** cleaves within the A β to prevent the formation of A β . Cleavage by α -secretase produces a soluble N-terminal fragment, APPs α , and a 10-kDa membrane C-terminal fragment, C83. Both C99 and C83 can be further cleaved by **γ -secretase** releasing A β and a nonpathogenic p3 peptide, respectively. Recently **TACE**, a member of the ADAM family (A Disintegrin And Metalloprotease family) protease has been shown to play a central role in a regulated cleavage of human APP. Inhibition of TACE affects both APP secretion and A β formation in cultured cells (1). Membrane-bound TNF- α , like APP, is transmembrane protein that can undergo TACE-mediated proteolysis to release the extracellular domain as soluble TNF- α . TACE contain an autoinhibitory domain that must be removed for activity, a proteolytic domain, a disintegrin domain, a cysteine-rich domain, and a Transmembrane domain.

Source of Antigen and Antibodies

Antigen	17aa peptide of rat TACE; Designated (TACE11-P or control peptide) conjugated to KLH; epitope location ~C-terminus, extracellular domain
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat #TACE11-A) Aff pure IgG (cat #TACE11-A) purified over antigen-agarose column
2-ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

The extracellular domain of human TACE (1-671 aa) was expressed as his-tag protein in E. coli and purified >90%. For **western blot +ve control (Cat # TACE11-C)**, is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **TACE11-C** for good visibility with antibody Cat # **TACE11-S**. Store at -20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **TACE11-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications

where native protein is required. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Do not freeze, thaw, or heat repeatedly

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). Major form of recombinant TACE migrates as ~70 Kda.

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

Histochemistry: Not tested.

Specificity & Cross-reactivity

The rat TACE11-P peptide sequence is 100% conserved in mouse, and 94% in human TACE. No significant sequence homology exists with other proteases. Antibody crossreactivity in various species is not established. 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 (see detailed protocol at the web site).

General References (1) Buxbaum JD (1998) JBC 273, 27765-27767; Lammich S (1999) PNAS 96, 3922; Vassar R (1999) Science 286, 735; Yan R (1999) Nature 402, 533; Sinha S (1999) Nature 537; Hussain I (1999) Mol. Cell Neurosci. 14, 419-427; Lin X (2000) PNAS 97, 1456-1460; Black (1997) Nature 385, 729; Moss (1997) Nature 385, 733.

*This product is for In vitro research use only.

TACE11-S-A-P-C

71219A