

Product Specification Sheet

**TNF- $\alpha$  Converting Enzyme (TACE) Antibodies**

Cat. # TACE12-M	Mouse monoclonal Anti-human TACE IgG # 2 (aff pure) <b>FORM:</b> Soln Lyophilized.	<b>SIZE:</b> 100 ug
Cat. # TACE11-C	Purified, recombinant Human TACE control protein for WB <b>FORM:</b> Soln Lyophilized	<b>SIZE:</b> 100 ul

$\beta$ -amyloid (**A $\beta$** ) deposition in the brain is the hallmark of Alzheimer's Disease (**AD**). To initiate A $\beta$  formation,  **$\beta$ -secretase** cleaves APP at the N-terminus of A $\beta$  to release APPs $\beta$  (~100 kDa soluble NT-fragment), and C99, a 12-kDa CT membrane fragment. Alternatively,  **$\alpha$ -secretase** cleaves within the A $\beta$  to prevent the formation of A $\beta$ . Cleavage by  $\alpha$ -secretase produces a soluble N-terminal fragment, APPs $\alpha$ , and a 10-kDa membrane C-terminal fragment, C83. Both C99 and C83 can be further cleaved by  **$\gamma$ -secretase** releasing A $\beta$  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 $\beta$  formation in cultured cells (1). Membrane-bound TNF- $\alpha$ , like APP, is transmembrane protein that can undergo TACE-mediated proteolysis to release the extracellular domain as soluble TNF- $\alpha$ . 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**

<b>Antigen</b>	Human TACE pure protein (EC domain 1-671 aa)
<b>Location</b>	Extracellular
<b>Ab Host/type</b>	Mouse, mono (IgG1)
<b>Ab Format</b>	Aff pure IgG ( <b>Cat #TACE12-M</b> )

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)**, it is supplied in SDS-PAGE sample buffer (reduced). Load ~10 ul/lane to visualize with TACE antibodies (**Cat # TACE11-S or TACE11-A**). The epitope for anti-rat TACE is contained in TACE11-C and it is 99% conserved. Store at -20oC to -80oC. Do not freeze and thaw. Heat once prior to loading on gels.

**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. We recommend the use of 2:20 ug/ml of affinity pure antibody (1).

**Flow Cytometry:** 500-1 ug/10<sup>6</sup> cells (blood lymphocytes or THP-1 cells).

**Specificity & Cross-reactivity**

The antibody is specific for human TACE. Antibody crossreactivity in various species is not established. There is minimal reactivity with bace, ADAM8, -9, -10, and -15

**General References (1)** Buxbaum JD et al (1998) J. Biol. Chem. 273, 27765-27767; Hall L (1998) Gene Accession # AJ012603; Lammich S et al (1999) PNAS 96, 3922-3927; Vassar R et al (1999) Science 286, 735-741; Yan R et al (1999) Nature 402, 533-537; Sinha S et al (1999) Nature 537-540; Hussain I et al (1999) Mol. Cell Neurosci. 14, 419-427; Lin X et al (2000) PNAS 97, 1456-1460; Black et al (1997) Nature 385, 729; Moss et al (1997) Nature 385, 733.

Citations of ADI's antibodies for Beta-site cleaving enzymes (BACE) and TACE, see updated list at [www.4adi.com/flr/baceflr.html](http://www.4adi.com/flr/baceflr.html)

**Form & Storage of Antibodies/Peptide Control**

**Affinity pure IgG**

100 ug/100ul solution	50 ug/50 ul lyophilized powder
Buffer: PBS pH 7.5	
<b>Reconstitute</b> in the original vol. of water	

**Storage**

**Short-term:** unopened, undiluted vials for less than a week at 4oC.

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

**Stability:** 6-12 months at -20oC or below.

**Shipping:** 4oC for solutions and room temp for powder.

\*This product is for In vitro research use only.

**Related material available from ADI**

Ant-Beta amyloid 1-40, 1-42, APP, Parkin, Synucleins ( $\alpha$ ,  $\beta$ ,  $\gamma$ ), Presenilins 1, 2, BACE/Asp2 and BACE2/Asp1

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