Revision 6

Store at -20C

#3976

TACE Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H Mk	Endogenous	135	Rabbit	#P78536	6868

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

Storage

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

Specificity/Sensitivity

TACE Antibody detects endogenous levels of TACE protein. Additional bands result from differential glycosylation.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to amino acids surrounding Val200 of human TACE. Antibodies are purified by Protein A and peptide affinity chromatography.

Background

TACE (TNF-α converting enzyme), also known as ADAM17, is a transmembrane metalloprotease that plays a key role in the cleavage of a number of cell surface molecules in a process known as “shedding". TACE is abundantly expressed in many adult tissues, but in fetal development, expression is differentially regulated (1). An important substrate of TACE is pro-TNF-α (1). Increased expression of TACE is associated with several pathological conditions, including osteoarthritis and rheumatoid arthritis, where the pro-inflammatory effects of increased TNF-α contribute to disease pathogenesis (2,3). Regulation of other important molecules by TACE, such as EGFR and Notch, has recently been documented. TACE is responsible for the shedding of EGFR ligands such as amphiregulin and TNF-α. Some tumors have hyperactivated EGFR due to upregulated TNF-α production and upregulated TACE, making TACE a potential target for drug development (4). TACE activates Notch in a ligand-independent manner and has been shown to play a role in the development of the *Drosophila* nervous system (5). TACE has also been proposed to act as an α-secretase for amyloid precursor protein (APP) (6), and to be involved in the renewal and proliferation of neural stem cells (7).

Background References

1. Black, R.A. et al. (1997) *Nature* 385, 729-33.
2. Amin, A.R. (1999) *Osteoarthritis Cartilage* 7, 392-4.
3. Patel, I.R. et al. (1998) *J Immunol* 160, 4570-9.
4. Kenny, P.A. (2007) *Differentiation* 75, 800-8.
5. Delwig, A. and Rand, M.D. (2008) *Cell Mol Life Sci* 65, 2232-43.
6. Deuss, M. et al. (2008) *Curr Alzheimer Res* 5, 187-201.
7. Rubio-Araiz, A. et al. (2008) *Mol Cell Neurosci* 38, 374-80.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses

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