**TACE Antibody**  
Cat. No.: 1131

---

**Figure 1 Western Blot Validation of TACE in Human Cell Lines**  
Loading: 15 μg of lysates per lane. Antibodies: TACE (1 μg/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. Lanes

---

**Figure 2 KO Validation in HeLa Cells**  
Loading: 10 μg of HeLa WT cell lysates or TACE KO cell lysates. Antibodies: TACE 1131 (0.25 μg/mL) and beta-actin 3779 (1 μg/mL), 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat Anti-Rabbit IgG HRP conjugate at 1:10000 dilution.

---

**Figure 3 Independent Antibody Validation (IAV) via Protein Expression Profile in Cell Lines**  
Loading: 15 μg of lysates per lane. Antibodies: TACE 1131 (0.5 μg/mL), TACE 22-001 (2 μg/mL), and GAPDH (0.02 μg/mL), 1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

---

**Figure 4 Immunofluorescence Validation of TACE in HeLa Cells**  
Immunofluorescent analysis of 4% paraformaldehyde-fixed HeLa cells labeling TACE with 1131 at 10 μg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (green).

---

**Figure 5 Immunocytochemistry Validation of TACE in HeLa Cells**  
Immunohistochemical analysis of HeLa cells using anti-TACE antibody (1131) at 10 μg/mL. Cells was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4 °C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counter stained with Hematoxylin.
Figure 6 KD Validation of TACE in Monkey COS Cells. (Wang et al., 2006)
COS cells stably expressing Pref-1A were transfected with control siRNA or TACE siRNA. TACE was detected in lysates by using the anti-TACE antibody (1131). TACE expression levels were markedly reduced in TACE knockdown cell lysate.

Figure 7 KD Validation of TACE in MDA-MB-435 Cells. (McGowan et al., 2007)
ADAM-17 protein expression, following transfection with ADAM-17 shRNA (two clones) or neomycin-resistant negative control vector, was examined by immunoblot analysis with anti-ADAM-17 antibodies (1131).

Figure 8 Overexpression Validation of TACE in MCF-7 Cells. (McGowan et al., 2007)
ADAM-17 (TACE) protein expression, following transfection of vector and ADAM-17 cDNA, was examined by immunoblot analysis with anti-ADAM-17 (1131) antibodies in MCF-7 cells. Increased ADAM-17 was detected in ADAM-17 transfected cells.

Figure 9 Induced Expression Validation of TACE in Rat Cortical Neurons (Hurtado et al., 2002)
Effect of oxygen–glucose deprivation (OGD) or glutamate on the levels of TACE/ADAM17 in rat cortical cultures. Western blot analysis of TACE in homogenates from control, glutamate, and OGD-exposed cultures from a representative experiment.

Figure 10 Immunofluorescence Validation of TACE in Rat Cortical Neurons (Hurtado et al., 2002)
Double immunostaining of control and glutamate-exposed rat cortical cultures. (A) Control cultures show TACE immunoreactivity at the cellular membrane of some microglial cells (B) Glutamate-exposed cultures show that most microglial cells express TACE immunoreactivity. (C) Control cultures show that TACE immunostaining does not colocalize with astrocytes (glial fibrillary acidic protein (GFAP)-positive cells). (D) Astrocyte (GFAP-positive cell) showing TACE immunoreactivity in its surface after treatment with glutamate.

Figure 11 Immunofluorescence Validation of TACE in Rat Brain (Pradillo et al, 2005)
Cellular localization of TACE. Double immunofluorescence staining of brain sections from sham-operated (SHAM; A, C, E) and IPC-exposed animals (IPC; B, D, F) of TACE (red) and the cellular markers (green) NeuN (neurons; A, B), GFAP (astrocytes; C, D) and L. esculentum lectin (microglia and endothelium; E, F). White arrows indicate TACE-positive cells.

Specifications

HOST SPECIES: Rabbit


December 16, 2019
**SPECIES REACTIVITY:** Human, Rat

**HOMOLOGY:** Predicted species reactivity based on immunogen sequence: mouse (94.1%)

**IMMUNOGEN:** Anti-TACE antibody (1131) was raised against a peptide corresponding to 17 amino acids near the carboxy terminus of human TACE.

The immunogen is located within the last 50 amino acids of TACE.

**TESTED APPLICATIONS:** ELISA, ICC, IF, WB

**APPLICATIONS:** TACE antibody can be used for detection of TACE by Western blot at 0.5 μg/mL. For immunocytochemistry use 10 μg/mL. For immunofluorescence start at 10 μg/mL.

Antibody validated: Western Blot in human samples; Immunocytochemistry in human samples and Immunofluorescence in human samples. All other applications and species not yet tested.

**SPECIFICITY:** 80 to 130 kDa bands can be detected, which may represent mature protein, precursor, and glycosylated TACE.

**POSITIVE CONTROL:**
1) Cat. No. 1201 - HeLa Cell Lysate
2) Cat. No. 1205 - Jurkat Cell Lysate
3) Cat. No. 1207 - Raji Cell Lysate
4) Cat. No. 17-001 - HeLa Cell Slide

**PREDICTED MOLECULAR WEIGHT:**
- Predicted: 93kD
- Observed: 93-125kD (Post-modification: 9 N-linked glycosylation)

**ISOFORMS:**
- Human TACE has 2 isoforms, including isoform A (824aa, 93kD), isoform B (694aa, 78.5kD). This antibody detects only isoform A.
- Mouse TACE has 2 isoforms, long isoform (827aa, 93.1kD) and short isoform (655aa, 73.9kD). Rat TACE has only one isoform identified so far (827aa, 93kD).

**Validation**

**KO Validation** (Figure 2): Anti-TACE antibodies (1131) specificity was further verified by TACE specific knockout. TACE signal was not detected in TACE knockout HeLa cells as compared to that in control wild type cells.

**Independent Antibody Validation in Cell lines** (Figure 3) shows similar TACE expression profile in human cell lines detected by two independent anti-TACE antibodies that recognize different epitopes, 1131 against C-terminus domain and 22-001 against a synthetic peptide to a sequence within amino acids 700-824 of human TACE. TACE proteins are detected in most of the tested cell lines except 293 and A549 cell lines at different expression levels by the two independent antibodies.

**KD validation** (Figure 6,7): Anti-TACE antibody (1131) specificity was verified by TACE specific siRNA or shRNA knockdown. TACE signal in COS cells (Figure 6) and MDA-MB-435 cells (Figure 7) with TACE knockdown was disrupted in comparison with control.

**Overexpression validation** (Figure 8): Anti-TACE antibody (1131) detected high expression levels of TACE in MCF-7 cells transfected with TACE as compared to vector transfected cells.

**Properties**

PURIFICATION: TACE Antibody is affinity chromatography purified via peptide column.

CLONALITY: Polyclonal

ISOTYPE: IgG

CONJUGATE: Unconjugated

PHYSICAL STATE: Liquid

BUFFER: TACE Antibody is supplied in PBS containing 0.02% sodium azide.

CONCENTRATION: 1 mg/mL

STORAGE CONDITIONS: TACE antibody can be stored at 4˚C for three months and -20˚C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

OFFICIAL SYMBOL: ADAM17

ALTERNATE NAMES: TACE Antibody: CSVP, TACE, NISBD, ADAM18, CD156B, CSVP, Disintegrin and metalloproteinase domain-containing protein 17, Snake venom-like protease, ADAM 17

ACCESSION NO.: NP_003174

PROTEIN GI NO.: 73747889

GENE ID: 6868

USER NOTE: Optimal dilutions for each application to be determined by the researcher.

BACKGROUND: TACE Antibody: Tumor-necrosis factor-alpha is a proinflammatory cytokine and contributes to a variety of inflammatory disease responses and programmed cell death. TNF-α is synthesized as a 26K type II membrane-bound precursor that is cleaved by a convertase to generate secreted 17K mature TNF-α. TNF-α converting enzyme (TACE) protein was recently purified and the human and mouse TACE cDNAs were cloned by several groups separately. TACE is a membrane-bound metalloprotease-disintegrin in the family of mammalian ADAM (for a disintegrin and metalloprotease). TACE also processes other cell surface proteins, including TNF receptor, TGFα, the L-selectin adhesion molecule, and alpha-cleavage of amyloid protein precursor (APP). TACE mRNA is expressed in a variety of human and murine tissues. TACE was selected as one of the few targets in cytokine activation by the Eighth International Conference of the Inflammation Research Association.

REFERENCES:


