Anti-ADAM17 antibody ab2051

**Product name**
Anti-ADAM17 antibody

**Description**
Rabbit polyclonal to ADAM17

**Host species**
Rabbit

**Tested applications**
Suitable for: WB, IHC-P, ICC/IF, Flow Cyt

**Species reactivity**
Reacts with: Mouse, Rat, Human

**Immunogen**
Synthetic peptide corresponding to Human ADAM17 aa 807-823.
Sequence:

`ASFKLQRQRNRVDSKETE`

(Peptide available as ab7881)

**Positive control**
HeLa whole cell lysate, or Jurkat whole cell lysate. This antibody gave a positive result in IHC in the following FFPE tissue: Human pancreas adenocarcinoma.

**General notes**
TNFα Converting Enzyme.

**Form**
Liquid

**Storage instructions**
Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

**Storage buffer**
Preservative: 0.02% Sodium azide

**Purity**
Immunogen affinity purified

**Clonality**
Polyclonal

**Isotype**
IgG

**Applications**
Our Abpromise guarantee covers the use of ab2051 in the following tested applications.
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.
Function

Cleaves the membrane-bound precursor of TNF-alpha to its mature soluble form. Responsible for the proteolytical release of soluble JAM3 from endothelial cells surface. Responsible for the proteolytical release of several other cell-surface proteins, including p75 TNF-receptor, interleukin 1 receptor type II, p55 TNF-receptor, transforming growth factor-alpha, L-selectin, growth hormone receptor, MUC1 and the amyloid precursor protein. Also involved in the activation of Notch pathway.

Tissue specificity

Ubiquitously expressed. Expressed at highest levels in adult heart, placenta, skeletal muscle, pancreas, spleen, thymus, prostate, testes, ovary and small intestine, and in fetal brain, lung, liver and kidney.

Sequence similarities

Contains 1 disintegrin domain.
Contains 1 peptidase M12B domain.

Domain

Must be membrane anchored to cleave the different substrates. The cytoplasmic domain is not required for this activity. Only the catalytic domain is essential to shed TNF and p75 TNFR. The conserved cysteine present in the cysteine-switch motif binds the catalytic zinc ion, thus inhibiting the enzyme. The dissociation of the cysteine from the zinc ion upon the activation-peptide release activates the enzyme.

Post-translational modifications

The precursor is cleaved by a furin endopeptidase.
Phosphorylated. Stimulation by growth factor or phorbol 12-myristate 13-acetate induces phosphorylation of Ser-819 but decreases phosphorylation of Ser-791.

Cellular localization

Membrane.

Images

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<th>Application</th>
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<tr>
<td>WB</td>
<td></td>
<td>1/500 - 1/1000. Predicted molecular weight: 93 kDa. Can be blocked with ADAM17 peptide (ab7881). Detects bands of 80-130 kDa bands, which may represent mature protein, precursor, and glycosylated TACE.</td>
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<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 10 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.</td>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>Use a concentration of 10 µg/ml.</td>
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<tr>
<td>Flow Cyt</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 19553533 ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.</td>
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</table>
Western Blot of HeLa (1, 4), Jurkat (2, 5) and Raji (3, 6) cell lysates labeling ADAM17 with Anti-ADAM17 antibody (ab2051) at 0.5µg/ml in the absence (1-3) or presence of blocking peptide (4-6).

Immunohistochemistry of ADAM17 staining in Human pancreas adenocarcinoma formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab2051, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.
**Western blot** - Anti-ADAM17 antibody (ab2051)

- **All lanes**: Anti-ADAM17 antibody (ab2051) at 1/500 dilution
- **Lane 1**: HeLa whole cell lysate with absence of blocking peptide
- **Lane 2**: Jurkat whole cell lysate with absence of blocking peptide
- **Lane 3**: HeLa whole cell lysate with ADAM17 peptide (ab7881)
- **Lane 4**: Jurkat whole cell lysate with ADAM17 peptide (ab7881)

**Predicted band size**: 93 kDa

80 to 130 kDa bands can be detected, which may represent mature protein, precursor, and glycosylated ADAM17.

**Immunocytochemistry/Immunofluorescence** - Anti-ADAM17 antibody (ab2051)

Immunofluorescence of TACE in HeLa cells using ab2051 at 10 ug/ml.
Western blot - Anti-ADAM17 antibody (ab2051)
This image is courtesy of an anonymous Abreview.

Lane 1: Anti-ADAM17 antibody (ab2051) at 0.5 µg/ml
Lane 2: Unrelated antibody of the same subclass as ab2051.

All lanes: Human keratinocytes (HaCaT)- whole cell lysate from 20000 cells

Secondary
All lanes: HRP conjugated goat polyclonal antibody

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 93 kDa
Observed band size: 100,125 kDa

why is the actual band size different from the predicted?

Exposure time: 1 minute

Immunocytochemistry/ Immunofluorescence - Anti-ADAM17 antibody (ab2051)

ab2051 at 10µg/ml staining ADAM17 in Hela cells by ICC/IF

Western blot - Anti-ADAM17 antibody (ab2051)
This image is courtesy of an anonymous Abreview.

All lanes: Anti-ADAM17 antibody (ab2051) at 1/1000 dilution

Lane 1: HeLa cell lysate
Lane 2: U937 cell lysate
Lane 3: HT1080 cell lysate
Lane 4: ES cell lysate
Lane 5: L929 cell lysate
Lane 6: CHO cell lysate
Lane 7: 293T cell lysate
Lane 8: ADAM17-overexpressing 293T cell lysate

Lysates/proteins at 50 µg per lane.
Secondary

All lanes: HRP-conjugated Goat anti-Rabbit polyclonal antibody at 1/4000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 93 kDa
Observed band size: 93 kDa
Additional bands at: 78 kDa (possible isoform)

Exposure time: 15 seconds

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