abcam

## Product datasheet

# Anti-Daxx antibody ab105173

2 Abreviews 3 Images

### Overview

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|---|---|
| **Product name** | Anti-Daxx antibody |
| **Description** | Rabbit polyclonal to Daxx |
| **Host species** | Rabbit |
| **Tested applications** | **Suitable for:** ICC/IF, WB |
| **Species reactivity** | **Reacts with:** Mouse, Human<br>**Predicted to work with:** Rat, Rabbit, Cow, Dog, Pig, Macaque monkey |
| **Immunogen** | Synthetic peptide conjugated to KLH derived from within residues 300 - 400 of Human Daxx.Read Abcam's proprietary immunogen policy |
| **Positive control** | This antibody gave a positive signal in Human Brain tissue lysate as well as the following whole cell lysates: HeLa; Jurkat; HEK293; A549; K562; MCF7. |

### Properties

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| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| **Storage buffer** | pH: 7.40<br>Preservative: 0.02% Sodium azide<br>Constituent: PBS<br>Note: Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help. |
| **Purity** | Immunogen affinity purified |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |

### Applications

Our Abpromise guarantee covers the use of **ab105173** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| ICC/IF | ★★★★☆ | 1/200. |
| WB | ★★★★☆ | Use a concentration of 1 µg/ml. Detects a band of approximately 81 kDa (predicted molecular weight: 81 kDa). |

## Target

**Function**

Transcription corepressor known to repress transcriptional potential of several sumoylated transcription factors. Down-regulates basal and activated transcription. Its transcription repressor activity is modulated by recruiting it to subnuclear compartments like the nucleolus or PML/POD/ND10 nuclear bodies through interactions with MCSR1 and PML, respectively. Seems to regulate transcription in PML/POD/ND10 nuclear bodies together with PML and may influence TNFRSF6-dependent apoptosis thereby. Inhibits transcriptional activation of PAX3 and ETS1 through direct protein-protein interactions. Modulates PAX5 activity; the function seems to involve CREBBP. Acts as an adapter protein in a MDM2-DAXX-USP7 complex by regulating the RING-finger E3 ligase MDM2 ubiquitination activity. Under non-stress condition, in association with the deubiquitinating USP7, prevents MDM2 self-ubiquitination and enhances the intrinsic E3 ligase activity of MDM2 towards TP53, thereby promoting TP53 ubiquitination and subsequent proteasomal degradation. Upon DNA damage, its association with MDM2 and USP7 is disrupted, resulting in increased MDM2 autoubiquitination and consequently, MDM2 degradation, which leads to TP53 stabilization. Acts as histone chaperone that facilitates deposition of histone H3.3. Acts as targeting component of the chromatin remodeling complex ATRX:DAXX which has ATP-dependent DNA translocase activity and catalyzes the replication-independent deposition of histone H3.3 in pericentric DNA repeats outside S-phase and telomeres, and the in vitro remodeling of H3.3-containing nucleosomes. Does not affect the ATPase activity of ATRX but alleviates its transcription repression activity. Upon neuronal activation associates with regulatory elements of selected immediate early genes where it promotes deposition of histone H3.3 which may be linked to transcriptional induction of these genes. Required for the recruitment of histone H3.3:H4 dimers to PML-nuclear bodies (PML-NBs); the process is independent of ATRX and facilitated by ASF1A; PML-NBs are suggested to function as regulatory sites for the incorporation of newly synthesized histone H3.3 into chromatin. In case of overexpression of centromeric histone variant CENPA (as found in various tumors) is involved in its mislocalization to chromosomes; the ectopic localization involves a heterotypic tetramer containing CENPA, and histones H3.3 and H4 and decreases binding of CTCF to chromatin. Proposed to mediate activation of the JNK pathway and apoptosis via MAP3K5 in response to signaling from TNFRSF6 and TGFBR2. Interaction with HSPB1/HSP27 may prevent interaction with TNFRSF6 and MAP3K5 and block DAXX-mediated apoptosis. In contrast, in lymphoid cells JNC activation and TNFRSF6-mediated apoptosis may not involve DAXX. Shows restriction activity towards human cytomegalovirus (HCMV).

**Tissue specificity**

Ubiquitous.

**Sequence similarities**

Belongs to the DAXX family.

**Domain**

The Sumo interaction motif mediates Sumo binding, and is required both for sumoylation and binding to sumoylated targets.

**Post-translational modifications**

Sumoylated with SUMO1 on multiple lysine residues.
Phosphorylated by HIPK1 upon glucose deprivation.
Polyubiquitinated; which is promoted by CUL3 and SPOP and results in proteasomal degradation. Ubiquitinated by MDM2; inducing its degradation. Deubiquitinated by USP7;

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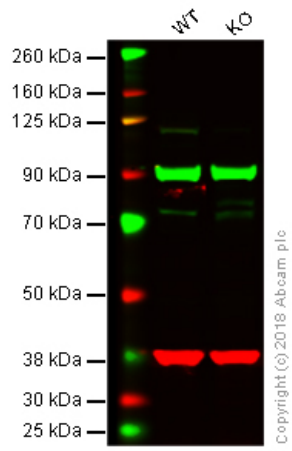
| | leading to stabilize it. |
| **Cellular localization** | Nucleus. Diffuse nuclear distribution pattern and no comparable dot-like accumulation of isoform 1 and Cytoplasm. Nucleus, nucleoplasm. Nucleus, PML body. Nucleus, nucleolus. Chromosome, centromere. Dispersed throughout the nucleoplasm, in PML/POD/ND10 nuclear bodies, and in nucleoli (Probable). Colocalizes with histone H3.3, ATRX, HIRA and ASF1A at PML-nuclear bodies (PubMed:12953102, PubMed:14990586, PubMed:23222847, PubMed:24200965). Colocalizes with a subset of interphase centromeres, but is absent from mitotic centromeres (PubMed:9645950). Detected in cytoplasmic punctate structures (PubMed:11842083). Translocates from the nucleus to the cytoplasm upon glucose deprivation or oxidative stress (PubMed:12968034). Colocalizes with RASSF1 in the nucleus (PubMed:18566590). Colocalizes with USP7 in nucleoplasma with accumulation in speckled structures (PubMed:16845383). |

## Images




Western blot - Anti-Daxx antibody (ab105173)

**All lanes :** Anti-Daxx antibody (ab105173) at 1 µg/ml

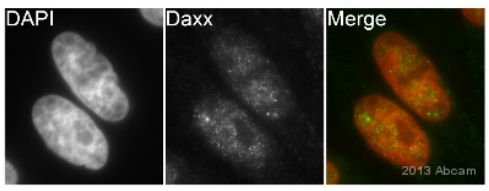
**Lane 1 :** Wild-type HAP1 whole cell lysate
**Lane 2 :** DAXX knockout HAP1 whole cell lysate

Lysates/proteins at 40 µg per lane.

**Predicted band size:** 81 kDa

**Lanes 1 - 2:** Merged signal (red and green). Green - ab105173 observed at 90 kDa. Red - loading control, ab9484, observed at 37 kDa.

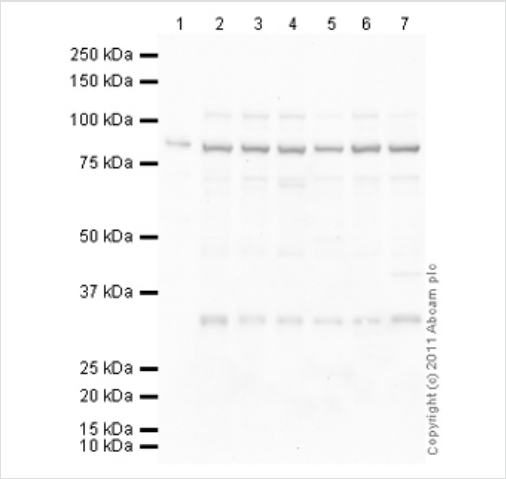
ab105173 was found to be non-specific when DAXX knockout samples were used. Wild-type and DAXX knockout samples were subjected to SDS-PAGE. ab105173 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at 1 µg/ml and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.




Immunocytochemistry/ Immunofluorescence - Anti-Daxx antibody (ab105173)

Image courtesy of an Abreview submitted by Dr. Kirk McManus, Univ. of Manitoba/Cancer Care MICB, Canada

ab105173 (1/200) staining DAXX in asynchronous HeLa cells (green). Cells were fixed in paraformaldehyde, permeabilized in 0.5% Triton X100/PBS and counterstained with DAPI in order to highlight the nucleus (red). For further experimental details please see Abreview.




Western blot - Anti-Daxx antibody (ab105173)

**All lanes :** Anti-Daxx antibody (ab105173) at 1 µg/ml

**Lane 1 :** Human brain tissue lysate - total protein (ab29466)
**Lane 2 :** HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate
**Lane 3 :** Jurkat (Human T cell lymphoblast-like cell line) Whole Cell Lysate
**Lane 4 :** HEK293 (Human embryonic kidney cell line) Whole Cell Lysate
**Lane 5 :** A549 (Human lung adenocarcinoma epithelial cell line) Whole Cell Lysate
**Lane 6 :** K562 (Human erythromyeloblastoid leukemia cell line) Whole Cell Lysate
**Lane 7 :** MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

**Secondary**
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (ab97080) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 81 kDa
**Observed band size:** 81 kDa
**Additional bands at:** 34 kDa. We are unsure as to the identity of these extra bands.

**Exposure time:** 1 minute

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