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Daxx Antibody

Catalog # ASC10030

Product Information

Application	WB, ICC, E
Primary Accession	Q9UER7
Other Accession	CAG33366, 48146287
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	81373
Conjugate	Unconjugated
Application Notes	Daxx antibody can be used for detection of Daxx by Western blot at 1 g/mL. A 120 kDa major band can be detected. Antibody can also be used for immunocytochemistry starting at 10 g/mL.

Additional Information

Gene ID	1616
Other Names	Daxx Antibody: DAP6, EAP1, BING2, DAP6, Death domain-associated protein 6, Daxx, hDaxx, death-domain associated protein
Target/Specificity	DAXX;
Reconstitution & Storage	Daxx antibody can be stored at 4℃ for three months and -20℃, 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.
Precautions	Daxx Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DAXX
Synonyms	BING2, DAP6
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 a histone chaperone that facilitates deposition of histone H3.3. Acts as a 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). Plays a role as a positive regulator of the heat shock transcription factor HSF1 activity during the stress protein response (PubMed:15016915).
Cellular Location	Cytoplasm. Nucleus, nucleoplasm. Nucleus, PML body. Nucleus, nucleolus. Chromosome, centromere Note=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) [Isoform gamma]: Nucleus. Note=Diffuse nuclear distribution pattern and no comparable dot-like accumulation of isoform 1
Tissue Location	Ubiquitous.

Background

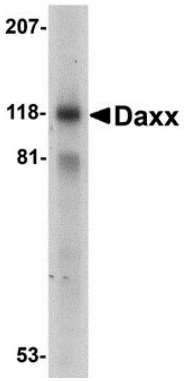
Daxx Antibody: Apoptosis, or programmed cell death, occurs during normal cellular differentiation and development of multicellular organisms. Apoptosis is induced by certain cytokines including TNF and Fas ligand of the TNF family through their death domain containing receptors, TNFR1 and Fas. Cell death signals are transduced by death domain (DD)- containing adapter molecules and members of the ICE/CED-3 protease family. A novel DD-containing molecule was recently cloned from mouse, human and monkey and

designated Daxx. Daxx binds specifically to the Fas death domain and enhances Fas induced apoptosis and activates the Jun N-terminal kinase (JNK) pathway. Daxx is widely expressed in fetal and adult human and mouse tissues indicating its important function in Fas signaling pathways.

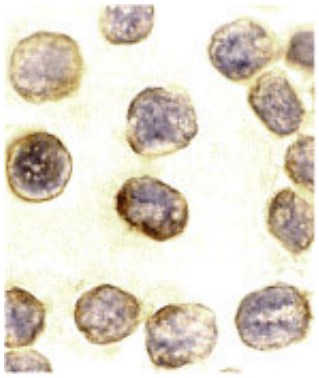
References

Yang X, Khosravi-Far R, Chang HY, Baltimore D. Daxx, a novel Fas-binding protein that activates JNK and apoptosis. Cell 1997;89:1067-1076
Kiriakidou M, Driscoll DA, Lopez-Guisa JM, Strauss JF 3rd. Cloning and expression of primate Daxx cDNAs and mapping of the human gene to chromosome 6p21.3 in the MHC region. DNA Cell Biol 1997;16:1289-1298 (RD1299)

Images



Western blot analysis of Daxx in 293 total cell lysate with Dax antibody at 1 mg/mL.



Immunocytochemistry of DAXX in HeLa cells with DAXX antibody at 10 µg/mL.