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-20°C

#95830

ATRX/Daxx Antibody Sampler Kit



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New 10/20

For Research Use Only. Not For Use In Diagnostic Procedures.

| Products Included | Product # | Quantity | Mol. Wt. | Isotype/Source |
|---|-----------|----------|----------|----------------|
| ATRX (D1N2E) Rabbit mAb | 14820 | 20 µl | 280 kDa | Rabbit IgG |
| Daxx (25C12) Rabbit mAb | 4533 | 20 µl | 110 kDa | Rabbit IgG |
| Tri-Methyl-Histone H3 (Lys9) (D4W1U) Rabbit mAb | 13969 | 20 µl | 17 kDa | Rabbit IgG |
| Histone H3 (D1H2) XP® Rabbit mAb | 4499 | 20 µl | 17 kDa | Rabbit IgG |
| Anti-rabbit IgG, HRP-linked Antibody | 7074 | 100 µl | | Goat |

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: The ATRX/Daxx Antibody Sampler Kit provides an economical means of detecting ATRX and Daxx as well as related histone marks using antibodies. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

Background: α -thalassemia/mental retardation X-linked (ATRX) is a transcriptional regulator and helicase that belongs to the SNF2 family of chromatin remodeling proteins (1,2). Together with its binding partner death-associated protein 6 (Daxx), ATRX acts as histone chaperone to deposit histone variant H3.3 at repetitive DNA sequences such as telomeric, pericentric, and ribosomal gene repeats (3-6). ATRX is involved in many nuclear functions that ensure proper sister chromatid cohesion during mitosis and chromosome alignment during meiosis (7,8). The ATRX transcriptional regulator also plays a role in the maintenance of telomere integrity and the regulation of gene expression during mammalian development by influencing DNA methylation patterns at high DNA repeat sequences (9,10). Mutations in the corresponding *ATRX* gene results in ATR-X syndrome, an X-linked disorder characterized by intellectual disabilities, craniofacial abnormalities, and mild α -thalassemia (11,12). Research studies indicate that the loss of ATRX protein occurs in numerous cancers, including pancreatic neuroendocrine tumors (PanNETs) and pediatric glioblastoma, where telomere maintenance occurs independently of telomerase (13-16).

Daxx is a ubiquitously expressed protein that was originally identified through a yeast two-hybrid screen as an interactor with the cytoplasmic domain of Fas. It was found to enhance Fas-mediated apoptosis and activate the JNK pathway (17). However, additional studies have revealed that Daxx is actually a nuclear protein localizing to promyelocytic leukemia oncogenic domains (PODs) (18,19). Nuclear interactions have since been observed with CENP-C (20), Pax3 (22), DNA methyltransferase I (21) and chromatin-associated proteins, including histone deacetylase II, H2A, H2B, H3, H4, and Dek. Roles for Daxx have been suggested in transcriptional repression and cell cycle control. Loss of Daxx in mice leads to embryonic lethality with

extensive developmental apoptosis, suggesting a role for Daxx directly or indirectly in suppressing cell death (22). Furthermore, inhibition of Daxx expression using RNAi has confirmed Daxx to be anti-apoptotic and to repress transcriptional activity of targets, including NF- κ B and E2F-1 (23).

Specificity/Sensitivity: ATRX (D1N2E) Rabbit mAb recognizes endogenous levels of total ATRX protein. Daxx (25C12) Rabbit mAb detects endogenous levels of total Daxx protein. While Daxx has a calculated MW of 81 kDa, it has been shown to run at an apparent MW of 110 kDa at least in part due to posttranslational hyper-phosphorylation (5). Tri-Methyl-Histone H3 (Lys9) (D4W1U) Rabbit mAb detects endogenous levels of histone H3 when tri-methylated on Lys9. This antibody shows some cross-reactivity with histone H3 that is di-methylated on Lys9, but does not cross-react with non-methylated or mono-methylated histone H3 Lys9. This antibody does not detect tri-methyl histone H3 Lys9 when the adjacent Ser10 residue is phosphorylated during mitosis. In addition, this antibody does not cross-react with methylated histone H3 Lys4, Lys27, Lys36, or Lys79. Histone H3 (D1H2) XP® Rabbit mAb detects endogenous levels of total histone H3 protein, including isoforms H3.1, H3.2, and H3.3. This antibody also detects the histone H3 variant CENP-A. This antibody does not cross-react with other core histones.

Source/Purification: ATRX (D1N2E) Rabbit mAb is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu1189 of human ATRX protein. Daxx (25C12) Rabbit mAb is produced by immunizing animals with a synthetic peptide corresponding to a region surrounding Gln255 of Daxx protein. Tri-Methyl-Histone H3 (Lys9) (D4W1U) Rabbit mAb is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of histone H3 in which Lys9 is tri-methylated. Histone H3 (D1H2) XP® Rabbit mAb is produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of the human histone H3 protein.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibodies.

Please visit www.cellsignal.com for validation data and a complete listing of recommended companion products.

Background References:

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