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Goat Anti-AKAP8 / AKAP95 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1044a

Specification

Goat Anti-AKAP8 / AKAP95 Antibody - Product Information

Application	**WB, E**
Primary Accession	O43823
Other Accession	NP_005849, 10270, 56399 (mouse), 116633 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**76108**

Goat Anti-AKAP8 / AKAP95 Antibody - Additional Information

Gene ID 10270

Other Names
A-kinase anchor protein 8, AKAP-8, A-kinase anchor protein 95 kDa, AKAP 95, AKAP8, AKAP95

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-AKAP8 / AKAP95 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-AKAP8 / AKAP95 Antibody - Protein Information

Name AKAP8

Synonyms AKAP95

Function
Anchoring protein that mediates the subcellular compartmentation of cAMP-dependent protein kinase (PKA type II) (PubMed:9473338). Acts as an anchor for a PKA-signaling complex onto mitotic chromosomes, which is required for maintenance of chromosomes in a condensed form throughout mitosis. Recruits condensin complex subunit NCAPD2 to chromosomes required for chromatin condensation; the function appears to be independent from PKA-anchoring (PubMed:10601332, PubMed:10791967, PubMed:11964380). May help to deliver cyclin D/E to CDK4 to facilitate cell cycle progression (PubMed:14641107). Required for cell cycle G2/M transition and histone deacetylation during mitosis. In mitotic cells recruits HDAC3 to the vicinity of chromatin leading to deacetylation and subsequent phosphorylation at 'Ser-10' of histone H3; in this function may act redundantly with AKAP8L (PubMed:16980585). Involved in nuclear retention of RPS6KA1 upon ERK activation thus inducing cell proliferation (PubMed:22130794). May be involved in regulation of DNA replication by acting as scaffold for MCM2 (PubMed:12740381). Enhances HMT activity of the KMT2 family MLL4/WBP7 complex and is involved in transcriptional regulation. In a teratocarcinoma cell line is involved in retinoic acid-mediated induction of developmental genes implicating H3 'Lys-4' methylation (PubMed:23995757). May be involved in recruitment of active CASP3 to the nucleus in apoptotic cells (PubMed:16227597). May act as a carrier protein of GJA1 for its transport to the nucleus (PubMed:26880274). May play a repressive role in the regulation of rDNA transcription. Preferentially binds GC-rich DNA in vitro. In cells, associates with ribosomal RNA (rRNA) chromatin, preferentially with rRNA promoter and transcribed regions (PubMed:26683827). Involved in modulation of Toll- like receptor signaling. Required for the cAMP-dependent suppression of TNF-alpha in early stages of LPS-induced macrophage activation; the function probably implicates targeting of PKA to NFKB1 (By similarity).

Cellular Location
Nucleus. Nucleus matrix. Nucleus, nucleolus. Cytoplasm {ECO:0000250|UniProtKB:Q9DBR0}. Note=Associated with the nuclear matrix in interphase and redistributes mostly to chromatin at mitosis However, mitotic chromatin localization has been questioned. Upon nuclear reassembly at the end of mitosis, is sequestered into the daughter nuclei where it re-acquires an interphase distribution Exhibits partial localization to the nucleolus in interphase, where it colocalizes with UBTF/UBF, suggesting localization to the fibrillary center and/or to the dense fibrillary component. Colocalizes with GJA1 at the nuclear membrane specifically during cell cycle G1/S phase

Tissue Location
Highly expressed in heart, liver, skeletal muscle, kidney and pancreas. Expressed in mature dendritic cells

Goat Anti-AKAP8 / AKAP95 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot

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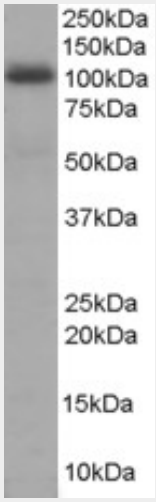
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-AKAP8 / AKAP95 Antibody - Images



AF1044a staining (1 µg/ml) of Human Liver lysate (RIPA buffer, 35 µg total protein per lane). Primary incubated for 1 hour. Detected by western blot using chemiluminescence.

Goat Anti-AKAP8 / AKAP95 Antibody - Background

The A-kinase anchor proteins (AKAPs) are a group of structurally diverse proteins, which have the common function of binding to the regulatory subunit of protein kinase A (PKA) and confining the holoenzyme to discrete locations within the cell. This gene encodes a member of the AKAP family. The encoded protein is located in the nucleus during interphase and is distinctly redistributed during mitosis. This protein has a cell cycle-dependent interaction with the RII subunit of PKA.

Goat Anti-AKAP8 / AKAP95 Antibody - References

Toward a confocal subcellular atlas of the human proteome. Barbe L, et al. Mol Cell Proteomics, 2008 Mar. PMID 18029348.
Global, in vivo, and site-specific phosphorylation dynamics in signaling networks. Olsen JV, et al. Cell, 2006 Nov 3. PMID 17081983.
A probability-based approach for high-throughput protein phosphorylation analysis and site localization. Beausoleil SA, et al. Nat Biotechnol, 2006 Oct. PMID 16964243.
A-kinase-anchoring protein 95 functions as a potential carrier for the nuclear translocation of active caspase 3 through an enzyme-substrate-like association. Kamada S, et al. Mol Cell Biol, 2005 Nov. PMID 16227597.
Large-scale characterization of HeLa cell nuclear phosphoproteins. Beausoleil SA, et al. Proc Natl Acad Sci U S A, 2004 Aug 17. PMID 15302935.