10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

AKAP8 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21342c

Product Information

Application	WB, E
Primary Accession	O43823
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52720
Calculated MW	76108

Additional Information

Gene ID	10270
Other Names	A-kinase anchor protein 8, AKAP-8, A-kinase anchor protein 95 kDa, AKAP 95, AKAP8, AKAP95
Target/Specificity	This AKAP8 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 395-430 amino acids from the Central region of human AKAP8.
Dilution	WB~~1:2000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	AKAP8 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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 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

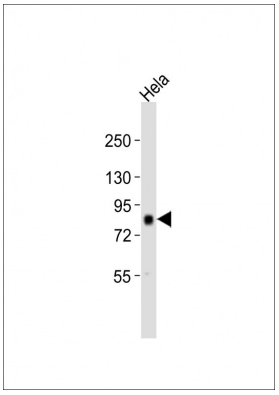
Background

Anchoring protein that mediates the subcellular compartmentation of cAMP-dependent protein kinase (PKA type II).

References

Eide T.,et al.Exp. Cell Res. 238:305-316(1998).
Grimwood J.,et al.Nature 428:529-535(2004).
Olsen J.V.,et al.Cell 127:635-648(2006).
Daub H.,et al.Mol. Cell 31:438-448(2008).
Dephoure N.,et al.Proc. Natl. Acad. Sci. U.S.A. 105:10762-10767(2008).

Images



Anti-AKAP8 Antibody (Center)at 1:2000 dilution + Hela whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 76 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.