A-Kinase Anchor Protein 8 (AKAP8) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	A-kinase anchor protein 8 (Akap8), Recombinant Protein
Full Product Name	Recombinant Rat A-kinase anchor protein 8 (Akap8)
Product Gene Name	Akap8 recombinant protein
Product Synonym Gene Name	Akap8
Sequence	MEQSYGGYGA WSAGPANTQG TYGSGVASWQ GYENYSYYNA QNTSVPTGTP YSYGPASWEA TKASDGGLAA GSSAMHVASF APEPCTDNSD SLIAKINQRL DMLSKEGGRG GISSGGEGMQ DRDSSFRFQP YESYDSRPCM PEHTPYRPSY SYDYDFDLGT DRNGSFGGTF NDCRDPTPER GALDGFLRGR GQGRFQDRSN SSTFIRSDPF MPPSASSEPL STTWSELNYM GGRGLGGPST NRPPPSLFSQ SMAPDYSMMG MQGVGGFGGT MPYGCGRSQT RIRDWPRRRG FERFGPDNMG RKRKPFPLYE EPDAKLARAD SEGDLSENDD GAGDLRSGDE EFRGEDDLCD SRKQRGEKED EDEDVKKRRE KQRRRDRMRD RAADRIQFAC SVCKFRSFED EEIQKHLQSK FHKETLRFIS TKLPDKTVEF LQEYIINRNK KIEKRRQELL EKESPKPKPD PFKGIGQEHF FKRIEAAHCL ACDMLIPAQH QLLQRHLHSV DHNHNRRLAA EQFKKTSLHV AKSVLNNKHI VKMLEKYLKG EDPFVNETAD LETEGDENLG EEKETPEEVA AEVLAEVITA AVKAVEGDGE PAAEHSDVLA EVEGPVDTAE AGSDSHTGKL LEEQTCETAS ETRNMEDMAR GEAAEARNEA AVPAAAAGSP VPVIAIPGIL EDELEQTDAE AKDTPTE
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	76,162 Da
Sequence Positions	1-687, full length protein
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q63014
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Akap8 recombinant protein	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.
Other Notes	Small volumes of Akap8 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Akap8 purchase	MBS1333816 is a recombinant protein targeting Akap8. Also known as Recombinant Rat A-kinase anchor protein 8 (Akap8). Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Akap8. It may not necessarily be applicable to this product.

NCBI GI #	198278527
NCBI GeneID	116633
NCBI Accession #	NP_446307.1
UniProt Primary Accession #	Q63014
UniProt Related Accession #	Q63014
GenBank Nucleotide #	NM_053855.1
NCBI Official Full Name	A-kinase anchor protein 8
NCBI Official Synonym Full Names	A-kinase anchoring protein 8
NCBI Official Symbol	Akap8
NCBI Official Synonym Symbols	Akap95
UniProt Protein Name	A-kinase anchor protein 8
UniProt Synonym Protein Names	A-kinase anchor protein 95 kDa; AKAP 95
Protein Family	A-kinase anchor protein
UniProt Gene Name	Akap8
UniProt Synonym Gene Names	Akap95; AKAP-8; AKAP 95
NCBI Protein Information	A-kinase anchor protein 8
NCBI Summary for Akap8	scaffolding protein that is involved in targeting type II cAMP-dependent protein kinase for cAMP-responsive nuclear events [RGD, Feb 2006]
UniProt Comments for Akap8	Anchoring protein that mediates the subcellular compartmentation of cAMP-dependent protein kinase (PKA type II) (PubMed:8125992). 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. May help to deliver cyclin D/E to CDK4 to facilitate cell cycle progression. 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. Involved in nuclear retention of RPS6KA1 upon ERK activation thus inducing cell proliferation. May be involved in regulation of DNA replication by acting as scaffold for MCM2. 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. May be involved in recruitment of active CASP3 to the nucleus in apoptotic cells. May act as a carrier protein of GJA1 for its transport to the nucleus. Seems to involved in modulation of rDNA transcription. Preferentially binds GC-rich DNA in vitro and associates to GC-rich ribosomal RNA promoters. 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 ().
Research Articles on Akap8	**1.** new insights into how AKAP95 orchestrates cell cycle progression.
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