MRPL40 Peptide - N-Terminal Region Blocking Peptide

PRODUCT OVERVIEW

Product Name	MRPL40, Blocking Peptide
Full Product Name	MRPL40 Peptide - N-terminal region
Product Gene Name	MRPL40 blocking peptide
Product Synonym Gene Name	URIM; L40mt; NLVCF; MRPL22; MRP-L22; MRP-L40; MRPL40
Sequence	Synthetic peptide located within the following region: SYGSSSYGGA GGYTQSPGGF GSPAPSQAEK KSRARAQHIV PCTISQLLSA
Species Reactivity	Human
Form/Format	Lyophilized powder
Preparation and Storage	Add 100ul of sterile PBS. Final peptide concentration is 1 mg/ml in PBS. For longer periods of storage, store at -20 degree C. Avoid repeat freeze-thaw cycles.
Antibody/Peptide Pairs	MRPL40 peptide (MBS3246381) is used for blocking the activity of MRPL40 antibody (MBS3221654)
Molecular Weight	30 kDa
OMIM	179836
Product Categories/Family for MRPL40 blocking peptide	Peptide
Related Product Information for MRPL40 blocking peptide	Mammalian mitochondrial ribosomal proteins are encoded by nuclear genes and help in protein synthesis within the mitochondrion. Mitochondrial ribosomes (mitoribosomes) consist of a small 28S subunit and a large 39S subunit. They have an estimated 75% protein to rRNA composition compared to prokaryotic ribosomes, where this ratio is reversed. Another difference between mammalian mitoribosomes and prokaryotic ribosomes is that the latter contain a 5S rRNA. Among different species, the proteins comprising the mitoribosome differ greatly in sequence, and sometimes in biochemical properties, which prevents easy recognition by sequence homology. This gene encodes a 39S subunit protein. Deletions in this gene may contribute to the etiology of velo-cardio-facial syndrome and DiGeorge syndrome.
Other Notes	Small volumes of MRPL40 blocking peptide 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 MRPL40 purchase	MBS3246381 is a blocking peptide targeting MRPL40. Also known as MRPL40 Peptide - N-terminal region. Reactive in Human.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MRPL40. It may not necessarily be applicable to this product.

NCBI GI #	4506585
NCBI GeneID	6118
NCBI Accession #	NP_001273005.1
UniProt Primary Accession #	P15927
UniProt Related Accession #	P15927
GenBank Nucleotide #	NM_001286076.1

NCBI Official Full Name	replication protein A 32 kDa subunit isoform 1
NCBI Official Synonym Full Names	replication protein A2
NCBI Official Symbol	RPA2
NCBI Official Synonym Symbols	REPA2; RPA32; RP-A p32; RP-A p34
UniProt Protein Name	Replication protein A 32 kDa subunit
UniProt Synonym Protein Names	Replication factor A protein 2; RF-A protein 2; Replication protein A 34 kDa subunit
Protein Family	39S ribosomal protein
UniProt Gene Name	RPA2
UniProt Synonym Gene Names	REPA2; RPA32; RPA34; RP-A p32; RF-A protein 2; RP-A p34
UniProt Entry Name	RFA2_HUMAN
NCBI Protein Information	replication protein A 32 kDa subunit
NCBI Summary for MRPL40	This gene encodes a subunit of the heterotrimeric Replication Protein A (RPA) complex, which binds to single-stranded DNA (ssDNA), forming a nucleoprotein complex that plays an important role in DNA metabolism, being involved in DNA replication, repair, recombination, telomere maintenance, and co-ordinating the cellular response to DNA damage through activation of the ataxia telangiectasia and Rad3-related protein (ATR) kinase. The RPA complex protects single-stranded DNA from nucleases, prevents formation of secondary structures that would interfere with repair, and co-ordinates the recruitment and departure of different genome maintenance factors. The heterotrimeric complex has two different modes of ssDNA binding, a low-affinity and high-affinity mode, determined by which oligonucleotide/oligosaccharide-binding (OB) domains of the complex are utilized, and differing in the length of DNA bound. This subunit contains a single OB domain that participates in high-affinity DNA binding and also contains a winged helix domain at its carboxy terminus, which interacts with many genome maintenance protein. Post-translational modifications of the RPA complex also plays a role in co-ordinating different damage response pathways. [provided by RefSeq, Sep 2017]
UniProt Comments for MRPL40	RFA2: Required for DNA recombination, repair and replication. The activity of RP-A is mediated by single-stranded DNA binding and protein interactions. Required for the efficient recruitment of the DNA double-strand break repair factor RAD51 to chromatin in response to DNA damage. Heterotrimer of 70, 32 and 14 kDa chains (canonical replication protein A complex). Component of the alternative replication protein A complex (aRPA) composed of RPA1, RPA3 and RPA4. The DNA-binding activity may reside exclusively on the 70 kDa subunit. Binds to SERTAD3/RBT1. Interacts with TIPIN. Directly interacts with PPP4R2, but not with SMEK2; this interaction is DNA damage-dependent and leads RPA2 dephosphorylation by PPP4C recruitment. Interacts with RAD51, preferentially when hyperphosphorylated. Directly interacts with RFWD3. 3 isoforms of the human protein are produced by alternative splicing. Protein type: DNA replication Chromosomal Location of Human Ortholog: 1p35 Cellular Component: nucleoplasm; chromosome, telomeric region; PML body; DNA replication factor A complex; nucleus Molecular Function: protein binding; enzyme binding; ubiquitin protein ligase binding; damaged DNA binding; protein N-terminus binding; protein phosphatase binding; single-stranded DNA binding Biological Process: G1 DNA damage checkpoint; mismatch repair; DNA strand elongation during DNA replication; DNA repair; double-strand break repair via homologous recombination; telomere maintenance via semi-conservative replication; DNA recombinase assembly; nucleotide-excision repair; base-excision repair; double-strand break repair; transcription-coupled nucleotide-excision repair; telomere maintenance via recombination; nucleotide-excision repair, DNA damage removal; mitotic cell cycle; nucleotide-excision repair, DNA gap filling; DNA replication; telomere maintenance; G1/S transition of mitotic cell cycle
Research Articles on MRPL40	**1.** RPA, best known for its role in DNA replication and repair, recruits HIRA to promoters and enhancers and regulates deposition of newly synthesized H3.3 to these regulatory elements for gene regulation.

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