Smith-Magenis Syndrome Chromosomal Region Candidate Gene 8 Protein (SMCR8) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Smith-Magenis syndrome chromosomal region candidate gene 8 protein (SMCR8), Recombinant Protein
Full Product Name	Recombinant Human Smith-Magenis syndrome chromosomal region candidate gene 8 protein (SMCR8) , partial
Product Gene Name	SMCR8 recombinant protein
Product Synonym Gene Name	SMCR8
Sequence	VVRSKAVSHR TISEDSIEVL STCPSEALIP DDFKASYPSA INEEESYPDG NEGAIRFQAS ISPPELGETE EGSIENTPSQ IDSSCCIGKE SDGQLVLPST PAHTHSDEDG VVSSPPQRHR QKDQGFRVDF SVENANPSSR DNSCEGFPAY ELDPSHLLAS RDISKTSLDN YSDTTSYVSS VASTSSDRIP SAYPAGLSSD RHKKRAGQNA
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	87,755 Da
Sequence Positions	501-710;Partial
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 Q8TEV9
Species	Human
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for SMCR8 recombinant protein	MBS1354845 is a recombinant protein targeting SMCR8. Also known as Recombinant Human Smith-Magenis syndrome chromosomal region candidate gene 8 protein (SMCR8) , partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.
Other Notes	Small volumes of SMCR8 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SMCR8. It may not necessarily be applicable to this product.

NCBI GI #	146260268
NCBI GeneID	140775
NCBI Accession #	NP_658988.2
UniProt Primary Accession #	Q8TEV9

UniProt Secondary Accession #	Q3ZCN0; Q6PJL3; A5PKZ5
UniProt Related Accession #	Q8TEV9
GenBank Nucleotide #	NM_144775.2
NCBI Official Full Name	guanine nucleotide exchange protein SMCR8
NCBI Official Synonym Full Names	Smith-Magenis syndrome chromosome region, candidate 8
NCBI Official Symbol	SMCR8
UniProt Protein Name	Guanine nucleotide exchange protein SMCR8
UniProt Synonym Protein Names	Smith-Magenis syndrome chromosomal region candidate gene 8 protein
Protein Family	Smith-Magenis syndrome chromosomal region candidate gene 8 protein
UniProt Gene Name	SMCR8
NCBI Protein Information	guanine nucleotide exchange protein SMCR8
UniProt Comments for SMCR8	Component of the C9orf72-SMCR8 complex, a complex that has guanine nucleotide exchange factor (GEF) activity and regulates autophagy (PubMed:20562859, PubMed:27193190, PubMed:27103069, PubMed:27559131, PubMed:27617292, PubMed:28195531). In the complex, C9orf72 and SMCR8 probably constitute the catalytic subunits that promote the exchange of GDP to GTP, converting inactive GDP-bound RAB8A and RAB39B into their active GTP-bound form, thereby promoting autophagosome maturation (PubMed:20562859, PubMed:27103069, PubMed:27617292, PubMed:28195531). The C9orf72-SMCR8 complex also acts as a negative regulator of autophagy initiation by interacting with the ATG1/ULK1 kinase complex and inhibiting its protein kinase activity (PubMed:27617292, PubMed:28195531). Acts as a regulator of mTORC1 signaling by promoting phosphorylation of mTORC1 substrates (PubMed:27559131, PubMed:28195531). In addition to its activity in the cytoplasm within the C9orf72-SMCR8 complex, SMCR8 also localizes in the nucleus, where it associates with chromatin and negatively regulates expression of suppresses ULK1 and WIPI2 genes (PubMed:28195531).
Research Articles on SMCR8	**1.** While focusing on the role of SMCR8 during autophagy initiation, we found that kinase activity and gene expression of ULK1 are increased upon SMCR8 depletion. The latter phenotype involved association of SMCR8 with the ULK1 gene locus.
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