FARS2 Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	FARS2, Monoclonal Antibody
Full Product Name	FARS2 (FARS1, Phenylalanine-tRNA Ligase, Mitochondrial, Phenylalanyl-tRNA Synthetase) (MaxLight 750)
Product Gene Name	anti-FARS2 antibody
Clonality	Monoclonal
Isotype	IgG2a,k
Clone Number	3F1
Host	Mouse
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight750.
Purity/Purification	Purified by Protein A Affinity Chromatography.
Specificity	Recognizes human FARS2.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight750 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	50.6kDa (436aa), confirmed by MALDI-TOF
OMIM	611592
3D Structure	ModBase 3D Structure for O95363
Immunogen	Partial recombinant corresponding to aa351-451 from FARS2 (NP_006558) with GST tag. MW of the GST tag alone is 26kD.
Immunogen Sequence	KVKFQPLSKYPAVINDISFWLPSENYAENDFYDLVRTIGGDLVEKVDLIDKFVHPKTHKTSHCYRITYRHMERTLSQREVRHIHQALQEAAVQLLGVEGRF
Conjugate	MaxLight750
Product Categories/Family for anti-FARS2 antibody	Antibodies; Mitochondrial Proteins
Applications Tested/Suitable for anti-FARS2 antibody	FLISA, Western Blot (WB)
Application Notes for anti-FARS2 antibody	Applications are based on unconjugated antibody.
Related Product Information for anti-FARS2 antibody	FARS2 encodes a telomere specific protein which is a component of the telomere nucleoprotein complex. This protein is present at telomeres throughout the cell cycle and functions as an inhibitor of telomerase, acting in cis to limit the elongation of individual chromosome ends. The protein structure contains a C-terminal Myb motif, a dimerization domain near its N-terminus and an acidic N-terminus.

Other Notes	Small volumes of anti-FARS2 antibody 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 FARS2 purchase	MBS6232799 is an antibody targeting FARS2. Also known as FARS2 (FARS1, Phenylalanine-tRNA Ligase, Mitochondrial, Phenylalanyl-tRNA Synthetase) (MaxLight 750). Reactive in Human. Host: Mouse.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for FARS2. It may not necessarily be applicable to this product.

NCBI GI #	5729820
NCBI GeneID	10667
NCBI Accession #	NP_006558
UniProt Primary Accession #	O95363
UniProt Secondary Accession #	Q53F66; Q5TCS3; Q6FG29; Q9NPY7; Q9P062; B2R664
UniProt Related Accession #	O95363
GenBank Nucleotide #	NM_006567
NCBI Official Full Name	phenylalanine--tRNA ligase, mitochondrial
NCBI Official Synonym Full Names	phenylalanyl-tRNA synthetase 2, mitochondrial
NCBI Official Symbol	FARS2
NCBI Official Synonym Symbols	FARS1; PheRS; SPG77; COXPD14; HSPC320
UniProt Protein Name	Phenylalanine--tRNA ligase, mitochondrial
UniProt Synonym Protein Names	Phenylalanyl-tRNA synthetase; PheRS
UniProt Gene Name	FARS2
UniProt Synonym Gene Names	FARS1; PheRS
UniProt Entry Name	SYFM_HUMAN
NCBI Protein Information	phenylalanine--tRNA ligase, mitochondrial
NCBI Summary for FARS2	This gene encodes a protein that transfers phenylalanine to its cognate tRNA. This protein localizes to the mitochondrion and plays a role in mitochondrial protein translation. Mutations in this gene can cause combined oxidative phosphorylation deficiency 14 (Alpers encephalopathy). Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jan 2016]
UniProt Comments for FARS2	FARS2: Catalyzes direct attachment of p-Tyr (Tyr) to tRNAPhe. Permits also, with a lower efficiency, the attachment of m-Tyr to tRNAPhe, thereby opening the way for delivery of the misacylated tRNA to the ribosome and incorporation of ROS-damaged amino acid into proteins. Belongs to the class-II aminoacyl-tRNA synthetase family. Protein type: EC 6.1.1.20; RNA-binding; Translation; Mitochondrial; Ligase Chromosomal Location of Human Ortholog: 6p25.1 Cellular Component: mitochondrial matrix Molecular Function: phenylalanine-tRNA ligase activity; magnesium ion binding; ATP binding; tRNA binding Biological Process: tRNA aminoacylation for protein translation; tRNA processing; phenylalanyl-tRNA aminoacylation; gene expression Disease: Combined Oxidative Phosphorylation Deficiency 14

Research Articles on FARS2	**1.** in patients with drug-resistant infantile spasm syndrome, associated with focal seizures, mild metabolic changes, and cerebral atrophy with volume loss of white matter on MRI, mutations in FARS2 should be considered.
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