

MFN2 Protein, Human (Cell-Free, His)

Cat. No.:	HY-P702377
Synonyms:	Mitofusin-2; Transmembrane GTPase MFN2
Species:	Human
Source:	E. coli Cell-free
Accession:	O95140 (M1-R757)
Gene ID:	9927
Molecular Weight:	87.9 kDa

PROPERTIES

AA Sequence

M S L L F S R C N S	I V T V K K N K R H	M A E V N A S P L K	H F V T A K K K I N
G I F E Q L G A Y I	Q E S A T F L E D T	Y R N A E L D P V T	T E E Q V L D V K G
Y L S K V R G I S E	V L A R R H M K V A	F F G R T S N G K S	T V I N A M L W D K
V L P S G I G H T T	N C F L R V E G T D	G H E A F L L T E G	S E E K R S A K T V
N Q L A H A L H Q D	K Q L H A G S L V S	V M W P N S K C P L	L K D D L V L M D S
P G I D V T T E L D	S W I D K F C L D A	D V F V L V A N S E	S T L M Q T E K H F
F H K V S E R L S R	P N I F I L N N R W	D A S A S E P E Y M	E E V R R Q H M E R
C T S F L V D E L G	V V D R S Q A G D R	I F F V S A K E V L	N A R I Q K A Q G M
P E G G G A L A E G	F Q V R M F E F Q N	F E R R F E E C I S	Q S A V K T K F E Q
H T V R A K Q I A E	A V R L I M D S L H	M A A R E Q Q V Y C	E E M R E E R Q D R
L K F I D K Q L E L	L A Q D Y K L R I K	Q I T E E V E R Q V	S T A M A E E I R R
L S V L V D D Y Q M	D F H P S P V V L K	V Y K N E L H R H I	E E G L G R N M S D
R C S T A I T N S L	Q T M Q Q D M I D G	L K P L L P V S V R	S Q I D M L V P R Q
C F S L N Y D L N C	D K L C A D F Q E D	I E F H F S L G W T	M L V N R F L G P K
N S R R A L M G Y N	D Q V Q R P I P L T	P A N P S M P P L P	Q G S L T Q E E F M
V S M V T G L A S L	T S R T S M G I L V	V G G V V W K A V G	W R L I A L S F G L
Y G L L Y V Y E R L	T W T T K A K E R A	F K R Q F V E H A S	E K L Q L V I S Y T
G S N C S H Q V Q Q	E L S G T F A H L C	Q Q V D V T R E N L	E Q E I A A M N K K
I E V L D S L Q S K	A K L L R N K A G W	L D S E L N M F T H	Q Y L Q P S R

Appearance Lyophilized powder

Formulation Lyophilized from a 0.22 µm filtered solution of PBS, 0.05% Brij-78, 6% Trehalose, pH 7.4.

Endotoxin Level <1 EU/µg, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH₂O. For long term storage it is recommended to add 5-50% of glycerol (final concentration). Our default final concentration of glycerol is 50%. Customers could use it as reference.

Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is

recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

MFN2, a mitochondrial outer membrane GTPase, intricately governs mitochondrial dynamics by mediating both clustering and fusion processes. This GTPase orchestrates the equilibrium between mitochondrial fusion and fission, critically shaping the dynamic morphology of these organelles. Notably, its overexpression induces the formation of extensive mitochondrial networks, emphasizing its pivotal role in mitochondrial organization. The GTPase activity of MFN2 is essential for membrane clustering and may involve significant rearrangements in the coiled coil domains. Beyond its structural contributions, MFN2 emerges as a central player in mitochondrial metabolism, implicating its association with obesity and apoptosis processes. Furthermore, it regulates vascular smooth muscle cell proliferation, demonstrating its diverse roles in cellular functions. In the realm of mitochondrial quality control, MFN2 is instrumental in clearing damaged mitochondria through selective autophagy (mitophagy) by facilitating the recruitment of PRKN to dysfunctional mitochondria. Additionally, it plays a crucial role in modulating the unfolded protein response (UPR) during endoplasmic reticulum (ER) stress, acting as an upstream regulator of EIF2AK3 and suppressing its activation under basal conditions. This multifaceted functionality underscores the significance of MFN2 in cellular homeostasis and stress response mechanisms.

Caution: Product has not been fully validated for medical applications. For research use only.

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