

DESCRIPTION

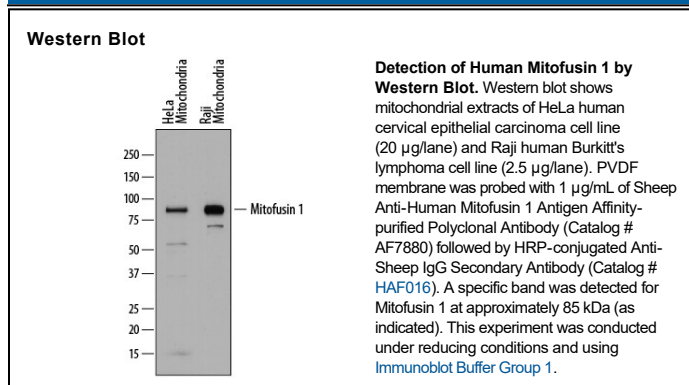
Species Reactivity	Human
Specificity	Detects human Mitofusin 1 in direct ELISAs and Western blots. In direct ELISAs, less than 3% cross-reactivity with recombinant human Mitofusin 2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Mitofusin 1 Ala2-Lys77 Accession # Q8IWA4
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

MFN-1 (Mitofusin 1; also Fzo/"fuzzy onions" homolog and Transmembrane GTPase MFN-1) is an 80-90 kDa mitochondrial member of the dynamin family of molecules. It is ubiquitously expressed, and found in the outer mitochondrial membrane. MFN-1 apparently mediates the fusion of individual mitochondria with each other through trans-interactions with adjacent mitochondrial MFN-1 and/or MFN-2. Perturbations with this process result in both a general overall fragmentation of mitochondria, and in cell-specific effects such as a reduction in oxidative phosphorylation or an imbalance in the generation of ROS. MFN-1 has two key domains. One is a coiled-coil region that mediates MFN-1:MFN-1/2 binding, and a second is a GTPase domain whose cleavage of GTP is necessary for membrane fusion. Human MFN-1 is a 741 amino acid (aa) two transmembrane protein that contains a cytoplasmic N- and C-terminus. The cytoplasmic N-terminus (aa 1-584) contains the GTPase domain (aa 82-286) while the cytoplasmic C-terminus possesses a critical coiled-coil motif (aa 679-734). MFN-1 is known to form oligomers, either with itself or MFN-2, and to undergo ubiquitination by MARCH5. Multiple splice variants are reported to occur. One is cytosolic and contains a four aa substitution for aa 367-741. Three others show a deletion of aa 444-554, aa 326-408 and an alternative start site at Met387, respectively. Over aa 1-77, human and mouse MFN-1 share 88% aa sequence identity. Full-length human MFN-1 and MFN-2 share 61% aa sequence identity.