

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | 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.                                                                                                               |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human Mitofusin 1<br>Ala2-Lys77<br>Accession # Q8IWA4                                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## 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.

## PRODUCT SPECIFIC NOTICES

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