

#### DESCRIPTION

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| <b>Species Reactivity</b>                                                                                                                                                                               | Human/Mouse/Rat                                                                                                                                             |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human, mouse, and rat Mitofusin 2 in direct ELISAs. In direct ELISAs, less than 1% cross-reactivity with recombinant human Mitofusin 1 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 2<br>Arg364-Phe599<br>Accession # O95140                                                                |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                             |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                                                                                |
| *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.

**Immunohistochemistry** 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-2 (Mitofusin 2; also Hypertension-related protein 1, Mitochondrial assembly regulatory factor, HSG protein, and Transmembrane GTPase MFN-2) is an 85-100 kDa mitochondrial member of the dynamin family of molecules. It is ubiquitously expressed, and found in both the ER and outer mitochondrial membrane. Through trans-interactions with MFN-1 and/or MFN-2, MFN-2 apparently mediates the fusion of individual mitochondria with either the ER or with adjacent mitochondria. Perturbations with this process result in both a general failure of mitochondria to fuse, and in cell-specific effects such as a reduction in oxidative phosphorylation, a decrease in the axonal transport of mitochondria, and a deficit in the expression of respiratory chain components. MFN-2 has two key domains. One is a coiled-coil region that mediates MFN-2:MFN-1/2 binding, and a second is a GTPase domain that likely plays a role in fusion. While active, the MFN-2 GTPase domain is 8-fold lower in activity than that for MFN-1. Human MFN-2 is a 757 amino acid (aa) two transmembrane protein that contains a cytoplasmic N- and C-terminus. The cytoplasmic N-terminus (aa 1-604) contains the GTPase domain (aa 99-258) while the cytoplasmic C-terminus possesses a critical coiled-coil motif (aa 696-738). MFN-2 is known to form oligomers, either with itself or MFN-1. Two potential splice variants are reported, one that shows a deletion of aa 245-273, and a second that contains a 33 aa substitution for aa 573-757, suggesting this might be a soluble form of MFN-2. Over aa 364-599, human and mouse MFN-2 share 93% aa sequence identity. Full-length human MFN-2 and MFN-1 share 61% aa sequence identity.

#### PRODUCT SPECIFIC NOTICES

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