

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	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.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Mitofusin 2 Arg364-Phe599 Accession # O95140
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 as a 0.2 µm filtered solution in PBS.

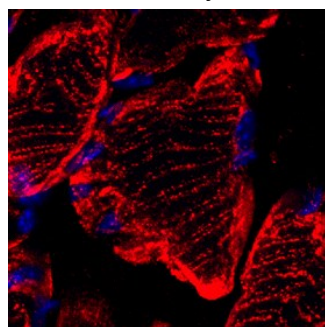
APPLICATIONS

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
Immunohistochemistry	5-15 µg/mL	See Below

DATA

Immunohistochemistry



Mitofusin 2 in Mouse Skeletal Muscle.

Mitofusin 2 was detected in perfusion fixed frozen sections of mouse skeletal muscle using Sheep Anti-Human/Mouse/Rat Mitofusin 2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7884) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent IHC Staining of Frozen Tissue Sections](#).

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-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.