

#11925 Store at -20C

## Mitofusin-2 (D1E9) Rabbit mAb

**Cell Signaling**  
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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IF-IC	H Hm Mk	Endogenous	80	Rabbit IgG	#O95140	9927

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)

#### Dilution

1:1000  
1:200  
1:100 - 1:200

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity / Sensitivity

Mitofusin-2 (D1E9) Rabbit mAb recognizes endogenous levels of total mitofusin-2 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val573 of human mitofusin-2 protein.

### Background

Mitofusins are mitochondrial transmembrane GTPases that function to regulate mitochondrial fusion, a process that occurs in concert with mitochondrial division and is necessary for the maintenance of structural and genetic mitochondrial integrity (1,2). Two mitofusins have been described in mammals, mitofusin-1 and -2, which share 60% amino acid identity and appear to function coordinately to regulate mitochondrial fusion (3). Mitochondrial fusion is widely recognized as important for normal cell growth and development (4), and may have evolved as a mechanism to offset the deleterious effects of mtDNA mutations (3). Null mutations in either mitofusin are embryonic lethal in mice, whereas conditional knockout studies have shown that combined deletion of mitofusin-1 and mitofusin-2 in skeletal muscle results in severe mitochondrial dysfunction (3). Research studies have revealed that mutations in mitofusin-2 are linked to Charcot-Marie-Tooth disease, an inherited neurodegenerative disease characterized by a progressive loss of muscle tissue and sensory perception (5,6).

### Background References

1. Zhang, Y. and Chan, D.C. (2007) *FEBS Lett* 581, 2168-73.
2. Chan, D.C. (2006) *Annu Rev Cell Dev Biol* 22, 79-99.
3. Chen, H. et al. (2010) *Cell* 141, 280-9.
4. Bereiter-Hahn, J. and Vöth, M. (1994) *Microsc Res Tech* 27, 198-219.
5. Kijima, K. et al. (2005) *Hum Genet* 116, 23-7.
6. Züchner, S. et al. (2004) *Nat Genet* 36, 449-51.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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