

Tim50 (C-9): sc-393678

BACKGROUND

The majority of mitochondrial-directed proteins are encoded by the nuclear genome and are transported to the mitochondria via regulated processes involving the mitochondrial Tom and Tim proteins. The mitochondrial Tim protein family is comprised of a large group of evolutionarily conserved proteins that are found in most eukaryotes. Import of nuclear-encoded precursor proteins into and across the mitochondrial inner membrane is mediated by two distinct complexes, the Tim23 complex and the Tim22 complex, which differ in their substrate specificities. Defects in Tim proteins are implicated in several neuro-degenerative diseases, suggesting important roles for Tim proteins in development and health. Tim50, also known as Tim50L or TIMM50, is ubiquitously expressed and functions as an important component of the Tim23 complex. Two isoforms of Tim50 are produced by alternative splicing. Isoform 1 localizes to the inner mitochondrial membrane, whereas isoform 2 localizes to nuclear speckles.

CHROMOSOMAL LOCATION

Genetic locus: TIMM50 (human) mapping to 19q13.2.

SOURCE

Tim50 (C-9) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Tim50 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tim50 (C-9) is available conjugated to agarose (sc-393678 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393678 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393678 PE), fluorescein (sc-393678 FITC), Alexa Fluor[®] 488 (sc-393678 AF488), Alexa Fluor[®] 546 (sc-393678 AF546), Alexa Fluor[®] 594 (sc-393678 AF594) or Alexa Fluor[®] 647 (sc-393678 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-393678 AF680) or Alexa Fluor[®] 790 (sc-393678 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Tim50 (C-9) is recommended for detection of Tim50 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Tim50 siRNA (h): sc-63129, Tim50 shRNA Plasmid (h): sc-63129-SH and Tim50 shRNA (h) Lentiviral Particles: sc-63129-V.

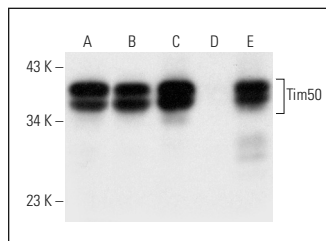
Molecular Weight of Tim50: 40 kDa.

Positive Controls: T98G cell lysate: sc-2294, Caki-1 cell lysate: sc-2224 or MDA-MB-231 cell lysate: sc-2232.

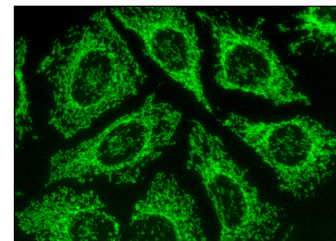
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Tim50 (C-9): sc-393678. Western blot analysis of Tim50 expression in T98G (A), Caki-1 (B) and MDA-MB-231 (C) whole cell lysates and rat heart (D) and human heart (E) tissue extracts. Note lack of reactivity with rat Tim50 in lane D.



Tim50 (C-9): sc-393678. Immunofluorescence staining of methanol-fixed HeLa cells showing mitochondrial localization.

SELECT PRODUCT CITATIONS

- Wei, Y., et al. 2017. Prohibitin 2 is an inner mitochondrial membrane mitophagy receptor. *Cell* 168: 224-238.e10.
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- Zhang, X.Y., et al. 2018. Revealing A-Raf functions through its interactome. *Biochim. Biophys. Acta Proteins Proteom.* 1866: 849-856.
- Sekine, S., et al. 2019. Reciprocal roles of Tom7 and OMA1 during mitochondrial import and activation of PINK1. *Mol. Cell* 73: 1028-1043.e5.
- Zhou, H., et al. 2020. IL-1 induces mitochondrial translocation of IRAK2 to suppress oxidative metabolism in adipocytes. *Nat. Immunol.* 21: 1219-1231.
- Richard, T.J.C., et al. 2020. K63-linked ubiquitylation induces global sequestration of mitochondria. *Sci. Rep.* 10: 22334.
- Kamradt, M.L., et al. 2021. NIK promotes metabolic adaptation of glioblastoma cells to bioenergetic stress. *Cell Death Dis.* 12: 271.
- Dumont, A.A., et al. 2021. Cardiomyocyte-specific Srsf3 deletion reveals a mitochondrial regulatory role. *FASEB J.* 35: e21544.
- Houston, R., et al. 2021. Discovery of bactericides as an acute mitochondrial membrane damage inducer. *Mol. Biol. Cell* 32: ar32.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.