

# Tim10 (N-19): sc-17049

## 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 specificity. Defects in Tim proteins are implicated in several neuro-degenerative diseases, suggesting important roles for Tim proteins in development and health. Tim10, which maps to human chromosome 11q12.1, forms heteromeric complexes with Tim9 and Tim12. One complex contains Tim9 and Tim10, which cross-links to the carboxy-terminal domain of Tim23. The carboxy-terminal domain of Tim23 carries all the targeting signals for Tim23, suggesting important role for the Tim9-Tim10 complex in Tim23 import. The other complex contains Tim9, Tim10 and Tim12, which associates with Tim22.

## REFERENCES

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- Bauer, M.F., et al. 1999. The mitochondrial TIM22 preprotein translocase is highly conserved throughout the eukaryotic kingdom. *FEBS Lett.* 464: 41-47.
- Rassow, J., et al. 1999. The preprotein translocase of the mitochondrial inner membrane: function and evolution. *J. Mol. Biol.* 286: 105-120.
- Adam, A., et al. 1999. Tim9, a new component of the TIM22.54 translocase in mitochondria. *EMBO J.* 18: 313-319.
- Davis, A.J., et al. 2000. Two intermembrane space TIM complexes interact with different domains of Tim23p during its import into mitochondria. *J. Cell Biol.* 150: 1271-1282.
- Bauer, M.F. and Neupert, W. 2001. Import of proteins into mitochondria: a novel pathomechanism for progressive neurodegeneration. *J. Inher. Metab. Dis.* 24: 166-180.

## CHROMOSOMAL LOCATION

Genetic locus: TIMM10 (human) mapping to 11q12.1; Timm10 (mouse) mapping to 2 D.

## SOURCE

Tim10 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Tim10 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17049 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Tim10 (N-19) is recommended for detection of Tim10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

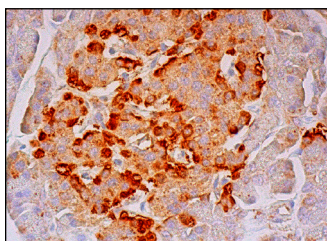
Tim10 (N-19) is also recommended for detection of Tim10 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for Tim10 siRNA (h): sc-41255, Tim10 siRNA (m): sc-41256, Tim10 shRNA Plasmid (h): sc-41255-SH, Tim10 shRNA Plasmid (m): sc-41256-SH, Tim10 shRNA (h) Lentiviral Particles: sc-41255-V and Tim10 shRNA (m) Lentiviral Particles: sc-41256-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



Tim10 (N-19): sc-17049. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.