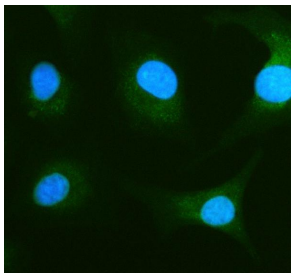
CHCHD4 Antibody / Mitochondrial intermembrane space import and assembly protein 40 Antibody (FY13591)

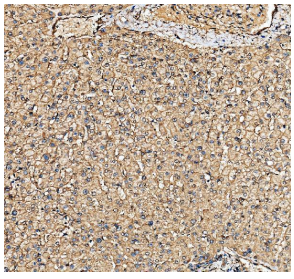
Catalog No.	Formulation	Size
FY13591	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

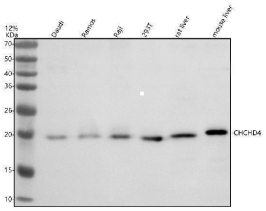
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8N4Q1
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml ELISA: 0.1-0.5 ug/ml
Limitations	The CHCHD4 Antibody / Mitochondrial intermembrane space import and assembly protein 40 Antibody is available for research use only.



CHCHD4 Antibody by IF in A549 cells. Immunofluorescence staining using Mitochondrial intermembrane space import and assembly protein 40 Antibody reveals green signal in the cytoplasm of A549 cells, with brighter punctate and perinuclear regions and DAPI-stained blue nuclei. The observed distribution is compatible with a mitochondrial-associated protein, although organelle-specific colocalization was not tested in this image. Cells underwent enzyme-mediated antigen retrieval for 15 minutes, followed by blocking in 10% goat serum. Primary antibody was applied at 5 ug/mL overnight at 4oC, followed by Fluoro488-conjugated secondary antibody at 1:500.



CHCHD4 Antibody by IHC in human liver carcinoma. Immunohistochemistry of paraffin-embedded human liver carcinoma using Mitochondrial intermembrane space import and assembly protein 40 Antibody shows widespread granular brown staining in tumor cells, including cytoplasmic regions. Tissue sections underwent heat-mediated antigen retrieval in EDTA buffer (pH 8.0) and blocking with 10% goat serum. Primary antibody was applied at 2 ug/mL overnight at 4oC, followed by peroxidase-conjugated secondary antibody and DAB detection. Hematoxylin provides the blue nuclear counterstain.



CHCHD4 Antibody by WB in human and rodent samples. Western blot analysis using Mitochondrial intermembrane space import and assembly protein 40 Antibody detects an immunoreactive band near 22 kDa in human Daudi (lane 1), Ramos (lane 2), Raji (lane 3), 293T (lane 4), rat liver (lane 5), and mouse liver (lane 6). The calculated molecular weight is approximately 16 kDa. Reduced lysates containing 30 ug protein per lane were separated by 12% SDS-PAGE and transferred to nitrocellulose. Membranes were blocked with 5% nonfat milk and incubated with primary antibody at 0.5 ug/mL overnight at 4oC. An HRP-conjugated secondary antibody and chemiluminescent substrate were used for detection.

Description

CHCHD4 Antibody / Mitochondrial intermembrane space import and assembly protein 40 Antibody detects CHCHD4, also known as mitochondrial intermembrane space import and assembly protein 40 or MIA40. CHCHD4 is a central component of the mitochondrial disulfide relay system, which promotes the import and oxidative folding of selected proteins into the intermembrane space. Many substrates of this pathway contain characteristic cysteine motifs that form disulfide bonds during maturation. CHCHD4 recognizes these substrates and participates directly in their oxidation.

Unlike mitochondrial proteins imported through pathways driven primarily by an N-terminal targeting sequence, many small intermembrane-space proteins rely on cysteine-dependent trapping and folding. CHCHD4 accepts electrons from substrate proteins through transient disulfide exchange reactions. The oxidoreductase ALR, encoded by GFER, helps regenerate the oxidized state of CHCHD4 so that additional substrates can be processed. This relay links protein import with the establishment of stable disulfide bonds. Its activity is important for the maturation of several proteins involved in respiratory chain function and mitochondrial maintenance. The Mitochondrial intermembrane space import and assembly protein 40 Antibody name refers to this same gene product.

CHCHD4 has also been studied in cellular responses to oxygen availability and changes in mitochondrial metabolism. Alterations in its expression may influence the abundance of proteins that depend on the disulfide relay pathway, with downstream consequences for mitochondrial organization. These effects should be distinguished from the protein acting as a respiratory chain subunit itself: CHCHD4 is primarily an import and folding factor. NSJ Bioreagents includes CHCHD4 among targets involved in mitochondrial protein biogenesis and redox-dependent maturation. A CHCHD4 Antibody provides a way to investigate the molecular biology associated with this protein.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

The recommended approach is to establish the optimal working dilution of the CHCHD4 Antibody / Mitochondrial intermembrane space import and assembly protein 40 Antibody through preliminary testing.

Immunogen

The CHCHD4 Antibody was generated using e. coli-derived human CHCHD4 recombinant protein (amino acids M1-D109).

Storage

The CHCHD4 Antibody is stable for up to one month at 4oC after reconstitution. For longer-term storage, aliquot and store at -20oC for up to six months. Do not repeatedly freeze and thaw.

Alternate Names

CHCHD4 antibody, Mitochondrial intermembrane space import and assembly protein 40 antibody, coiled-coil-helix-coiled-coil-helix domain containing 4 antibody, MIA40 antibody, Coiled-coil-helix-coiled-coil-helix domain-containing protein 4

antibody, CHCHD4 rabbit polyclonal antibody

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