

ETHE1 Antibody / Persulfide dioxygenase ETHE1, mitochondrial Antibody (FY13574)

Catalog No.	Formulation	Size
FY13574	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

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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 Na ₂ HPO ₄ .
UniProt	O95571
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Immunoprecipitation : 2ug per 500ug of lysate ELISA : 0.1-0.5 ug/ml
Limitations	Intended solely for research purposes, this ETHE1 Antibody / Persulfide dioxygenase ETHE1, mitochondrial Antibody is not for clinical use.

ETHE1 Antibody by IF in U2OS cells. Immunofluorescence using Persulfide dioxygenase ETHE1, mitochondrial Antibody shows green cytoplasmic staining in U2OS cells, with signal extending around the blue DAPI-stained nuclei and appearing somewhat granular in the surrounding cytoplasm. This distribution is compatible with a mitochondrial protein, but the organelle identity is not directly confirmed by a colocalization marker in this figure. Following enzyme-mediated antigen retrieval and blocking with 10% goat serum, cells were incubated with primary antibody at 5 ug/mL overnight at 4°C and detected with a fluorescent goat anti-rabbit secondary antibody.

ETHE1 Antibody by IHC in human stomach tissue. Immunohistochemistry of paraffin-embedded human stomach tissue using Persulfide dioxygenase ETHE1, mitochondrial Antibody demonstrates brown staining concentrated in gastric glandular epithelial cytoplasm, including cells surrounding mucous vacuoles, with hematoxylin-counterstained nuclei appearing blue. Sections were subjected to heat-mediated antigen retrieval in EDTA buffer at pH 8.0 and blocked with 10% goat serum. The primary antibody was incubated at 2 ug/mL overnight at 4oC, followed by peroxidase-conjugated secondary antibody and DAB detection.

ETHE1 Antibody by WB in human cell lines and rodent tissues. Western blot analysis using Persulfide dioxygenase ETHE1, mitochondrial Antibody detects a prominent immunoreactive band near 28 kDa in HeLa (lane 1), HepG2 (lane 2), Jurkat (lane 3), RT4 (lane 4), rat liver (lane 5), rat stomach (lane 6), mouse liver (lane 7), and mouse stomach (lane 8). The calculated molecular weight is approximately 27.9 kDa. Samples were analyzed under reducing conditions with 30 ug protein per lane using 12% SDS-PAGE, followed by transfer to nitrocellulose. Membranes were blocked with 5% nonfat milk and incubated with primary antibody at 0.5 ug/mL overnight at 4oC. HRP-conjugated secondary antibody and chemiluminescent substrate were used for visualization.

ETHE1 Antibody by IHC in human colon tissue. Immunohistochemistry of paraffin-embedded human colon tissue using Persulfide dioxygenase ETHE1, mitochondrial Antibody demonstrates brown cytoplasmic staining along colonic glandular epithelial cells, particularly the basal and lateral regions around mucin-rich goblet cells, with hematoxylin-counterstained nuclei appearing blue. Sections were subjected to heat-mediated antigen retrieval in EDTA buffer at pH 8.0 and blocked with 10% goat serum. The primary antibody was incubated at 2 ug/mL overnight at 4oC, followed by peroxidase-conjugated secondary antibody and DAB detection.

ETHE1 Antibody by IHC in human colon carcinoma. Immunohistochemistry of paraffin-embedded human colon carcinoma using Persulfide dioxygenase ETHE1, mitochondrial Antibody demonstrates dense brown cytoplasmic staining in malignant gland-forming epithelial cells, with hematoxylin-counterstained nuclei appearing blue. Sections were subjected to heat-mediated antigen retrieval in EDTA buffer at pH 8.0 and blocked with 10% goat serum. The primary antibody was incubated at 2 ug/mL overnight at 4oC, followed by peroxidase-conjugated secondary antibody and DAB detection.

ETHE1 Antibody by IHC in human stomach carcinoma. Immunohistochemistry of paraffin-embedded human stomach carcinoma using Persulfide dioxygenase ETHE1, mitochondrial Antibody demonstrates strong granular brown cytoplasmic staining in tumor epithelium surrounding glandular lumina, with hematoxylin-counterstained nuclei appearing blue. Sections were subjected to heat-mediated antigen retrieval in EDTA buffer at pH 8.0 and blocked with 10% goat serum. The primary antibody was incubated at 2 ug/mL overnight at 4oC, followed by peroxidase-conjugated secondary antibody and DAB detection.

ETHE1 Antibody by IP in human RT4 cells. Immunoprecipitation using Persulfide dioxygenase ETHE1, mitochondrial Antibody was assessed by Western blot of RT4 whole-cell lysate. Lane 1 contains input lysate, lane 2 is the rabbit IgG immunoprecipitation control, and lane 3 contains material precipitated with ETHE1 antibody. A band near 26-28 kDa is visible in the input and antibody immunoprecipitate, consistent with the approximately 28 kDa expected protein, while a prominent band near 50 kDa in the immunoprecipitate corresponds to immunoglobulin heavy chain. The experiment supports recovery of an ETHE1-reactive protein from RT4 lysate.

Description

ETHE1 Antibody / Persulfide dioxygenase ETHE1, mitochondrial Antibody detects ETHE1, a mitochondrial sulfur dioxygenase involved in the metabolism of hydrogen sulfide-derived compounds. Hydrogen sulfide is produced during sulfur-containing amino acid metabolism and can act in signaling at controlled concentrations, but excessive accumulation interferes with mitochondrial respiration. ETHE1 catalyzes the oxygen-dependent oxidation of persulfide sulfur to sulfite, forming part of the pathway that disposes of sulfide-derived sulfur. The enzyme contains a non-heme iron center important for its catalytic activity.

Mitochondrial sulfide oxidation involves several cooperating components. Sulfide:quinone oxidoreductase initiates oxidation and transfers electrons into the ubiquinone pool, while downstream reactions process sulfur intermediates. ETHE1 acts on persulfide substrates generated within this network. The pathway links sulfur handling with respiratory-chain activity and cellular redox balance. ETHE1 is not the same enzyme as sulfite oxidase, which acts at a later stage of sulfur metabolism. Keeping these steps distinct helps explain why deficiencies in different enzymes can produce different biochemical patterns. The Persulfide dioxygenase ETHE1, mitochondrial Antibody designation refers to this same molecular target.

Biallelic pathogenic variants in ETHE1 cause ethylmalonic encephalopathy, a severe metabolic disorder associated with impaired sulfide detoxification. Accumulated sulfide can inhibit cytochrome c oxidase, helping explain the relationship between sulfur metabolism and mitochondrial dysfunction. The disease association provides strong evidence for the physiological importance of ETHE1 activity. NSJ Bioreagents includes ETHE1 among mitochondrial metabolic targets. An ETHE1 Antibody provides a way to investigate the biological role of ETHE1 and the molecular processes associated with this target.

Explore related research targets in our [Metabolism Antibody / Metabolism Antibodies](#) collection.

Application Notes

Users should optimize the working dilution of the ETHE1 Antibody / Persulfide dioxygenase ETHE1, mitochondrial Antibody for their specific experimental setup.

Immunogen

The ETHE1 Antibody was generated using e. coli-derived human ETHE1 recombinant protein (amino acids D42-A254).

Storage

Following reconstitution, the ETHE1 Antibody can be kept at 4°C for one month. Aliquot for extended storage at -20°C for up to six months, avoiding repeated freezing and thawing.

Alternate Names

ETHE1 antibody, Persulfide dioxygenase ETHE1, mitochondrial antibody, Persulfide dioxygenase ETHE1 antibody, mitochondrial antibody, ETHE1 persulfide dioxygenase antibody, ethylmalonic encephalopathy 1 antibody, HSCO antibody, Protein ETHE1 antibody, YF13H12 antibody

