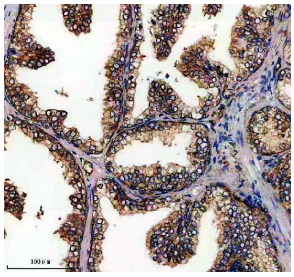
NIT1 Antibody / Deaminated glutathione amidase Antibody (FY13620)

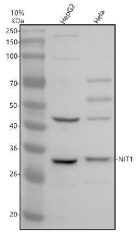
Catalog No.	Formulation	Size
FY13620	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

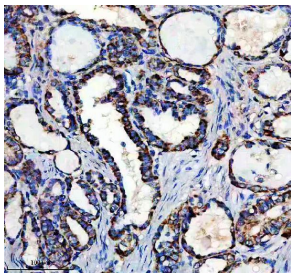
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q86X76
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5 ug/ml
Limitations	This NIT1 Antibody / Deaminated glutathione amidase Antibody is supplied exclusively for research use.



NIT1 Antibody by IHC in human prostate carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human prostate carcinoma using Deaminated glutathione amidase Antibody shows prominent brown cytoplasmic staining in glandular epithelial cells. Antigen retrieval was performed with EDTA buffer at pH 8.0. Sections were blocked with 10% goat serum and incubated with primary antibody at 2 ug/mL overnight at 4oC. Detection used an HRP-conjugated secondary antibody and DAB chromogen, with hematoxylin counterstaining.



NIT1 Antibody by WB in human cell lines. Western blot analysis using Deaminated glutathione amidase Antibody detects an immunoreactive band consistent with the expected molecular weight of approximately 36 kDa. Lane assignments: HepG2 (lane 1), HeLa (lane 2). Each lane contained 30 ug total protein under reducing conditions, resolved by 10% 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.



NIT1 Antibody by IHC in human thyroid carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human thyroid carcinoma using Deaminated glutathione amidase Antibody shows brown staining in epithelial cells surrounding glandular structures. Antigen retrieval was performed with EDTA buffer at pH 8.0. Sections were blocked with 10% goat serum and incubated with primary antibody at 2 ug/mL overnight at 4oC. Detection used an HRP-conjugated secondary antibody and DAB chromogen, with hematoxylin counterstaining.

Description

NIT1 Antibody / Deaminated glutathione amidase Antibody recognizes nitrilase family member 1, an enzyme involved in the metabolism of deaminated glutathione. NIT1 belongs to the nitrilase superfamily, whose proteins share elements of a conserved catalytic architecture but differ in the substrates they process. The identification of deaminated glutathione as a physiological substrate helped clarify a function that was not evident from the protein's family name alone. Its activity places NIT1 within the broader network of glutathione-related metabolic reactions rather than solely within pathways of cell-growth regulation.

Glutathione is a tripeptide containing glutamate, cysteine, and glycine that plays central roles in cellular redox balance and electrophile detoxification. Deaminated glutathione differs chemically from glutathione because the amino group of its glutamate-derived portion has been replaced by a carbonyl functionality. This modification changes the molecule's metabolic fate. NIT1 catalyzes hydrolytic processing of deaminated glutathione, allowing the cell to clear a metabolite that is not handled identically to ordinary glutathione. Deaminated glutathione should not be confused with ophthalmic acid, a separate glutathione analog in which the cysteine residue is replaced by 2-aminobutyrate.

The NIT1 Antibody recognizes the enzyme now associated with deaminated glutathione turnover, a more specific biochemical identity than its original family-based annotation suggested. Like other nitrilase-superfamily enzymes, NIT1 uses a catalytic mechanism involving a conserved active-site cysteine. Related family members can possess different substrate preferences despite sharing similar folds, so the enzymatic functions of NIT1 and NIT2 should not be treated as interchangeable. Biochemical substrate identification is particularly valuable for enzymes initially annotated mainly by sequence similarity, because physiological activity can differ from early predictions.

NIT1 has also been discussed in studies of tumor suppression and cell proliferation. Those observations raise questions about whether its metabolic function influences cellular signaling or whether additional protein interactions contribute independently. The causal relationship between deaminated glutathione turnover and growth-related phenotypes is not fully resolved. Further work on metabolite flux, enzyme regulation, and cellular context is needed to explain how NIT1 activity fits into glutathione homeostasis and whether disturbances in this pathway affect responses to metabolic stress.

Explore related research targets in our Metabolism Antibody / Metabolism Antibodies collection.

Application Notes

Working dilutions of the NIT1 Antibody / Deaminated glutathione amidase Antibody may require optimization according to the experimental protocol.

Immunogen

The NIT1 Antibody was generated using e. coli-derived human NIT1 recombinant protein (amino acids E45-D276).

Storage

Once reconstituted, refrigerate the NIT1 Antibody at 4oC for no longer than one month. For extended storage, freeze aliquots at -20oC for up to six months and avoid repeated freeze-thaw cycles.

Alternate Names

NIT1 antibody, Deaminated glutathione amidase antibody, nitrilase 1 antibody, Nitrilase homolog 1 antibody, EC:3.5.1.128 antibody, dGSH amidase antibody

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