abcam

ab314192

Anti-NTH1 antibody [22H10]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human NTHL1. Database link P78549
Clone number	22H10
Purification technique	Affinity purification
Concentration	1.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/500 - 1/2000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Target data

See full target information NTHL1

Function Bifunctional DNA N-glycosylase with associated apurinic/apyrimidinic (AP) lyase function that catalyzes the first step in base excision repair (BER), the primary repair pathway for the repair of oxidative DNA damage (PubMed:29610152, PubMed:9927729). The DNA N-glycosylase activity releases the damaged DNA base from DNA by cleaving the N-glycosidic bond, leaving an AP site. The AP-lyase activity cleaves the phosphodiester bond 3' to the AP site by a beta-elimination. Primarily recognizes and repairs oxidative base damage of pyrimidines. Also has 8-oxo-7,8-dihydroguanine (8-oxoG) DNA glycosylase activity. Acts preferentially on DNA damage opposite guanine residues in DNA. Is able to process lesions in nucleosomes without requiring or inducing nucleosome disruption.

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The NTH1 protein also known as endonuclease III-like protein 1 functions as a DNA glycosylase involved in base excision repair. It plays a role in the repair of oxidative DNA damage. NTH1 has a molecular mass of approximately 33 kDa. This protein is located in various tissues throughout the human body but it shows higher expression in the testes heart and skeletal muscle. These expression patterns suggest its significance in oxidative stress response across different body systems.
Biological function summary	NTH1 removes oxidized pyrimidines from damaged DNA as part of its role in cellular repair mechanisms. As a component of the base excision repair pathway it tackles oxidative lesions to prevent mutation accumulation. It does not act as a complex with other proteins but operates after being recruited to relevant DNA sites requiring repair. This essential function keeps genomic integrity intact and allows for regular cellular processes.
Pathways	NTH1 plays an important role within the base excision repair and DNA damage response pathways. It cooperates with proteins such as APE1 which prepares the site for subsequent repair steps ensuring proper DNA maintenance. NTH1’s involvement in base excision repair specifically addresses small-scale oxidative damage highlighting its role in safeguarding genetic information. These pathways are fundamental for normal cell function and response to environmental stressors.

Associated diseases and disorders

NTH1 has links to conditions involving accumulated DNA damage such as cancer and neurodegenerative diseases. DNA repair deficiency due to NTH1 malfunction can contribute to the onset of such diseases. The protein interacts with partners like OGG1 which also plays a role in oxidative DNA lesion recognition and repair to manage DNA stability. Understanding the dysfunction of NTH1 in these contexts helps in exploring potential therapeutic targets and diagnostic markers for related disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

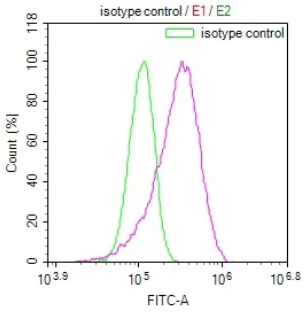
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images

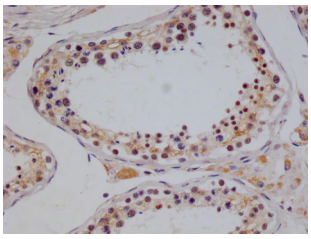


Flow Cytometry (Intracellular) - Anti-NTH1 antibody [22H10] (ab314192)

NTH1 Flow Cytometry (Intracellular) staining of HepG2 cells using rabbit Anti-NTH1 antibody

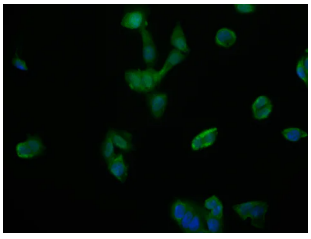
Overlay Peak curve showing HepG2 (Human liver hepatocellular carcinoma cell line) cells stained with ab314192 (pink line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% TritonX-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1x10E6 cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG (H+L) at 1:200 dilution for 35min at 4°C. Control antibody

(green line) was rabbit IgG (1ug/1x10E6 cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NTH1 antibody [22H10] (ab314192)

Immunohistochemical analysis of ab314192 diluted at 1:100 and staining in paraffin-embedded human testis tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Immunocytochemistry/ Immunofluorescence - Anti-NTH1 antibody [22H10] (ab314192)

Immunofluorescence staining of PC-3 (Human prostate adenocarcinoma cell line) cells with ab314192 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor® 604-conjugated Goat Anti-Rabbit IgG(H+L).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.