abcam

ab214440

Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR3658
Purification technique	Affinity purification Protein A
Concentration	1.009 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information HIF1AN

Function	Hydroxylates HIF-1 alpha at 'Asn-803' in the C-terminal transactivation domain (CAD). Functions as an oxygen sensor and, under normoxic conditions, the hydroxylation prevents interaction of HIF-1 with transcriptional coactivators including Cbp/p300-interacting transactivator. Involved in transcriptional repression through interaction with HIF1A, VHL and histone deacetylases. Hydroxylates specific Asn residues within ankyrin repeat domains (ARD) of NFKB1, NFKBIA, NOTCH1, ASB4, PPP1R12A and several other ARD-containing proteins. Also hydroxylates Asp and His residues within ARDs of ANK1 and TNKS2, respectively. Negatively regulates NOTCH1 activity, accelerating myogenic differentiation. Positively regulates ASB4 activity, promoting vascular differentiation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab214440 is the carrier-free version of ab92498.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	HIF1AN also known as FIH-1 (Factor Inhibiting HIF-1) is an enzyme primarily engaged in the hydroxylation of asparagine residues on hypoxia-inducible factor (HIF) alpha subunits. This action negatively regulates HIF by inhibiting its transcriptional activity. It has an approximate molecular weight of 40 kDa. HIF1AN is ubiquitously expressed in various tissues reflecting its critical role in cellular oxygen homeostasis.
Biological function summary	HIF1AN acts as an important regulator under normoxic conditions by maintaining the HIF complex in its inactive state. It does not operate alone; instead it is part of a larger protein complex that includes the HIF-alpha subunits and pVHL the latter marking HIF for degradation. This regulation ensures that the cellular response to oxygen levels is tightly controlled preventing unwarranted expression of hypoxia-related genes when oxygen is sufficient.
Pathways	The role of HIF1AN is integral in the HIF signaling and cellular response to hypoxia pathways. It is particularly associated with the modulation of the HIF pathway through its interaction with proteins such as HIF-1α and VHL. This relationship ensures a controlled activation of pathways that respond to low oxygen scenarios affecting processes like angiogenesis. The interactions between HIF1AN VHL and HIF-1α demonstrate HIF1AN's pivotal role in regulating gene expression linked to oxygen levels.
Associated diseases and disorders	HIF1AN has connections to conditions like cancer and ischemic diseases. Its regulatory effects on HIF activity mean alterations in HIF1AN expression or function can contribute to tumor growth due to its role in promoting angiogenesis and metabolic adaptation in hypoxic tumor microenvironments. HIF1AN also has indirect links to the tumor suppressor protein VHL with mutations in VHL leading to aberrations in HIF-1α regulation further implicating HIF1AN in oncogenesis.

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.

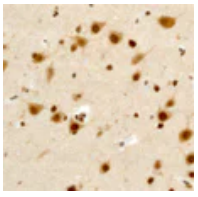
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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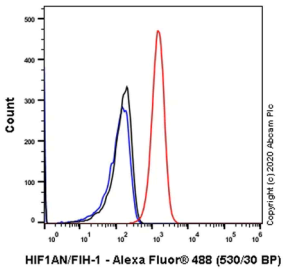
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free (ab214440)

HIF1AN/FIH-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HIF1AN/FIH-1 antibody

This data was developed using ab92498, the same antibody clone in a different buffer formulation. ab92498 at 1/250 dilution staining HIF1AN/FIH-1 in Human brain by Immunohistochemistry, Paraffin-embedded tissue. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

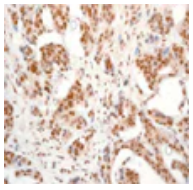


Flow Cytometry (Intracellular) - Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free (ab214440)

HIF1AN/FIH-1 Flow Cytometry (Intracellular) staining using rabbit Anti-HIF1AN/FIH-1 antibody

This data was developed using ab92498, the same antibody clone in a different buffer formulation.

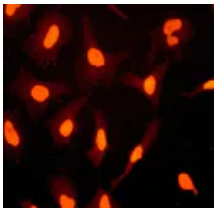
Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling HIF1AN/FIH-1 with purified ab92498 at 1/1000 dilution (1 µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free (ab214440)

HIF1AN/FIH-1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HIF1AN/FIH-1 antibody

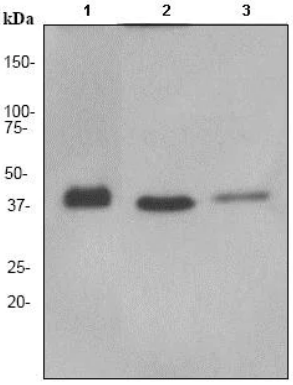
This data was developed using ab92498, the same antibody clone in a different buffer formulation. ab92498 at 1/250 dilution staining HIF1AN/FIH-1 in Human breast carcinoma by Immunohistochemistry, Paraffin-embedded tissue. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free (ab214440)

HIF1AN/FIH-1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HIF1AN/FIH-1 antibody

This data was developed using ab92498, the same antibody clone in a different buffer formulation. ab92498 at 1/100 dilution staining HIF1AN/FIH-1 in HeLa cells by Immunofluorescence.



Western blot - Anti-HIF1AN/FIH-1 antibody [EPR3658] - BSA and Azide free (ab214440)

This data was developed using ab92498, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-HIF1AN/FIH-1 antibody [EPR3658] (ab92498) at 1/5000 dilution

Lane 1:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 10 µg

Lane 2:
HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 10 µg

Lane 3:
A-375 (Human malignant melanoma cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Goat anti-rabbit HRP conjugated at 1/2000 dilution

Predicted band size: 40 kDa

Observed band size: 40 kDa

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