abcam

ab76093

Anti-HOXB4 antibody [EP1919Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP1919Y
Purification technique	Affinity purification Protein A
Concentration	1.118 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/60
Notes	**For unpurified use please use at 1/40**

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information HOXB4

Function	Sequence-specific transcription factor which is part of a developmental regulatory system that provides cells with specific positional identities on the anterior-

posterior axis.

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	HOXB4 is a homeobox protein that functions as a transcription factor and is alternatively known as Homeobox protein Hox-B4. It plays a role in the regulation of gene expression influencing cell differentiation and development. The molecular weight of HOXB4 is approximately 28 kDa. This protein is mostly

	expressed in embryonic tissues and certain adult tissues including the bone marrow where it plays a part in hematopoiesis.
Biological function summary	HOXB4 is essential in maintaining stem cell populations and directing hematopoietic stem cell differentiation. It does not form part of any large complex but it interacts with DNA to control the expression of specific genes critical for cellular development. By regulating these genes HOXB4 influences the proper formation of body structures during embryogenesis.
Pathways	HOXB4 is involved in the hematopoietic cell lineage and the anterior-posterior patterning pathway. It works alongside other Hox family proteins to establish the identity of cells and tissues along the body axis. A vital interaction exists with HOXA9 within these pathways which embodies collaborative control over blood cell formation and differentiation.
Associated diseases and disorders	Abnormalities in HOXB4 expression link to certain types of leukemia and other blood-related disorders. Overexpression can lead to increased proliferation of hematopoietic stem cells causing a potential risk in developing acute myeloid leukemia. Interaction with proteins like HOXA9 has been observed in these contexts indicating a complex network of genetic regulation disruption associated with the onset of myeloproliferative diseases.

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

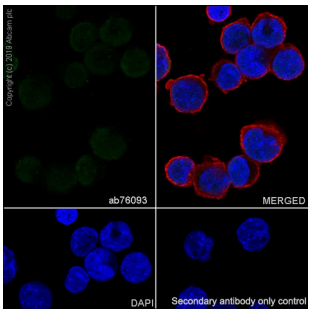
We do not recommend this combination. It is not covered by our product promise.

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.

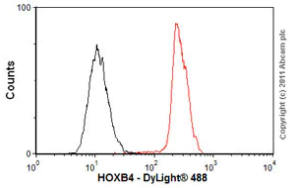
7 product images



Immunocytochemistry/ Immunofluorescence - Anti-HOXB4 antibody [EP1919Y] (ab76093)

HOXB4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-HOXB4 antibody

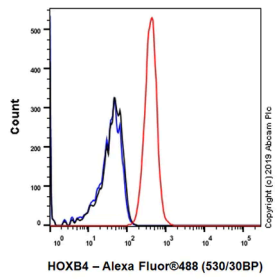
Immunocytochemistry/ Immunofluorescence analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling HOXB4 with purified ab76093 at 1:100 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-HOXB4 antibody [EP1919Y] (ab76093)

HOXB4 Flow Cytometry (Intracellular) staining using rabbit Anti-HOXB4 antibody

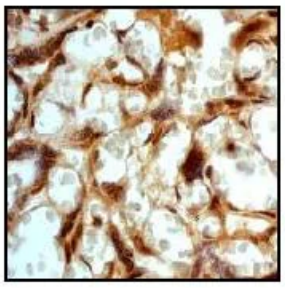
Overlay histogram showing K562 cells stained with unpurifiedab76093 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab76093, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Flow Cytometry (Intracellular) - Anti-HOXB4 antibody [EP1919Y] (ab76093)

HOXB4 Flow Cytometry (Intracellular) staining using rabbit Anti-HOXB4 antibody

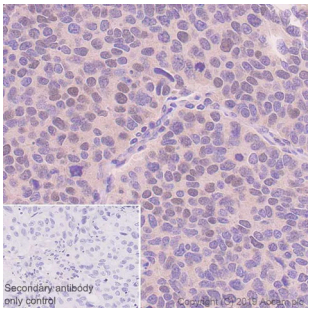
Intracellular Flow Cytometry analysis of K-562 (Human chronic myelogenous leukemia lymphoblast) cells labeling HOXB4 with purified ab76093 at 1/100 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) 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-HOXB4 antibody [EP1919Y] (ab76093)

HOXB4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HOXB4 antibody

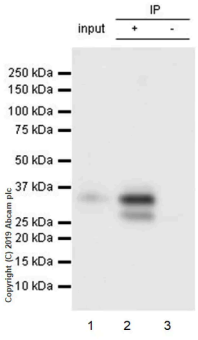
Immunohistochemical analysis of paraffin-embedded human placental tissue, using unpurified ab76093, at 1/100 dilution.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-HOXB4 antibody [EP1919Y] (ab76093)

HOXB4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-HOXB4 antibody

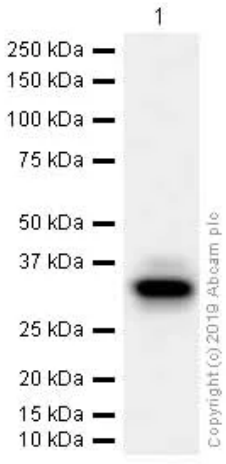
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung carcinoma tissue sections labeling HOXB4 with purified ab76093 at 1:100 dilution (11.86 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunoprecipitation - Anti-HOXB4 antibody [EP1919Y] (ab76093)

ab76093 (Purified) at 1:60 dilution (2 µg) immunoprecipitating HOXB4 in K-562 whole cell lysate.
Lane 1 (input): K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate 10 µg
Lane 2 (+): ab76093 & K-562 whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab76093 in K-562 whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-HOXB4 antibody [EP1919Y] (ab76093)

Predicted band size: 28 kDa



Western blot - Anti-HOXB4 antibody [EP1919Y] (ab76093)

All lanes:
Western blot - Anti-HOXB4 antibody [EP1919Y] (ab76093) at 1/1000 dilution

All lanes:
K-562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysates at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 28 kDa

Observed band size: 34 kDa

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