abcam

ab135248

Anti-RUNX3 antibody [2B3]

KO Validated

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human RUNX3 aa 150-300. The exact immunogen used to generate this antibody is proprietary information. Database link Q13761
Clone number	2B3
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/200 - 1/400

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

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

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

ICC/IF

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information RUNX3

Function

Forms the heterodimeric complex core-binding factor (CBF) with CBFB. RUNX members modulate the transcription of their target genes through recognizing the core consensus binding sequence 5'-TGTGGT-3', or very rarely, 5'-TGCGGT-3', within their regulatory regions via their runt domain, while CBFB is a non-DNA-binding regulatory subunit that allosterically enhances the sequence-specific DNA-binding capacity of RUNX. The heterodimers bind to the core site of a number of enhancers and promoters, including murine leukemia virus, polyomavirus enhancer, T-cell receptor enhancers, LCK, IL3 and GM-CSF promoters (By similarity). May be involved in the control of cellular proliferation and/or differentiation. In association with ZFHX3, up-regulates CDKN1A promoter activity following TGF-beta stimulation (PubMed:20599712). CBF complexes repress ZBTB7B transcription factor during cytotoxic (CD8+) T cell development. They bind to RUNX-binding sequence within the ZBTB7B locus acting as transcriptional silencer and allowing for cytotoxic T cell differentiation. CBF complexes binding to the transcriptional silencer is essential for recruitment of nuclear protein complexes that catalyze epigenetic modifications to establish epigenetic ZBTB7B silencing (By similarity). Necessary for the development and survival of sensory neurons expressing parvalbumin (By similarity).

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

Notes

This product was changed from ascites to supernatant. Lot no's high than GR206339-20 are from Tissue Culture Supernatant

Supplementary info

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

Activity summary	RUNX3 also known as Runt-related transcription factor 3 is a protein that plays an important role in regulating gene expression. The protein has a mass of approximately 44 kDa. RUNX3 is found mainly in tissues like the gastrointestinal tract and neural systems. It functions as a DNA-binding transcription factor that regulates various genes responsible for important cellular processes.
Biological function summary	The function of RUNX3 involves the regulation of cell proliferation differentiation and apoptosis. RUNX3 often forms a complex with the core-binding factor beta (CBFβ) enhancing its stability and DNA-binding capability. This protein is essential in maintaining cellular homeostasis and influencing the immune response particularly through its role in T cell development.
Pathways	RUNX3 is heavily involved in the TGF-beta signaling pathway and the Wnt signaling pathway. It interacts with several proteins such as SMADs in the TGF-beta pathway to modulate gene expression that affects cell growth and survival. Interaction with beta-catenin in the Wnt signaling pathway further emphasizes its importance in regulating cell fate decisions.
Associated diseases and disorders	Alterations in RUNX3 expression or function are linked to cancer including gastric cancer and colorectal cancer. It often shows reduced activity or expression in these cancers which associates with proteins like TGF-beta leading to impaired cell growth control. RUNX3 dysregulation is also connected to neurological disorders due to its role in neural development and function.

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

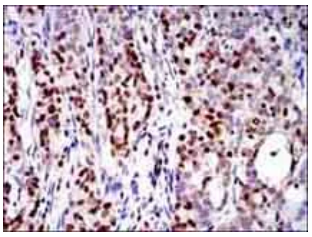
We do not recommend this combination. It is not covered by our product promise.

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.

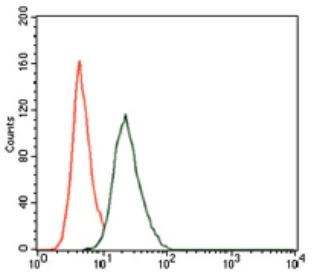
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RUNX3 antibody [2B3] (ab135248)

RUNX3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-RUNX3 antibody

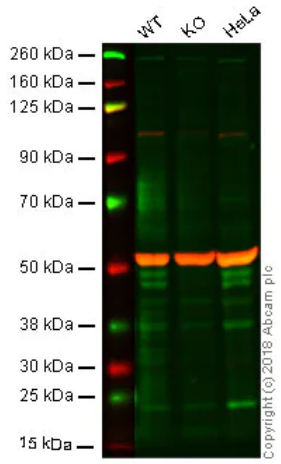
Immunohistochemical analysis of Paraffin-embedded Human cervical cancer tissue labelling RUNX3 with ab135248 at 1/200 dilution followed by DAB staining.



Flow Cytometry - Anti-RUNX3 antibody [2B3] (ab135248)

RUNX3 Flow Cytometry staining using mouse Anti-RUNX3 antibody

Flow cytometric analysis of NIH 3T3 cells labelling RUNX3 with ab135248 at 1/200 dilution (green). Negative control (red).



Western blot - Anti-RUNX3 antibody [2B3] (ab135248)

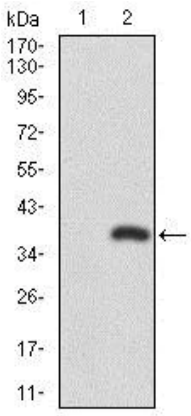
RUNX3 Western blot staining using mouse Anti-RUNX3 antibody

Lane 1: Wild-type HAP1 whole cell lysate (20 µg)
Lane 2: RUNX3 knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lanes 1 - 3: Merged signal (red and green). Green - ab135248 observed at 44 kDa. Red - loading control, ab176560, observed at 50 kDa.

ab135248 was shown to recognize RUNX3 in wild-type HAP1 cells as signal was lost at the expected MW in RUNX3 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and RUNX3 knockout samples were subjected to SDS-PAGE. ab135248 and ab176560 (Rabbit anti-alpha Tubulin loading control) were incubated overnight at 4°C at 1/500 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed ab216772 and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed ab216777 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-RUNX3 antibody [2B3] (ab135248)

Predicted band size: 44 kDa



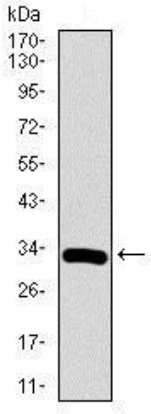
Western blot - Anti-RUNX3 antibody [2B3] (ab135248)

All lanes:
Western blot - Anti-RUNX3 antibody [2B3] (ab135248) at 1/500 dilution

Lane 1:
HEK293 cell lysate, non-transfected

Lane 2:
HEK293 cell lysate, transfected with RUNX3 (amino acids 186-252)-hIgGFc

Predicted band size: 44 kDa



Western blot - Anti-RUNX3 antibody [2B3] (ab135248)

All lanes:
Western blot - Anti-RUNX3 antibody [2B3] (ab135248) at 1/500 dilution

All lanes:
Recombinant Human RUNX3 protein

Predicted band size: 44 kDa

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