abcam

ab181451

Anti-ZEB1 antibody [2A8A6]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ZEB1 aa 950 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P37275
Clone number	2A8A6
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	Human
Dilution info	1/200 - 1/400

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

WB

Tested

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

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

IHC-P

Tested

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Tested

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information ZEB1

Function	Acts as a transcriptional repressor. Inhibits interleukin-2 (IL-2) gene expression. Enhances or represses the promoter activity of the ATP1A1 gene depending on the quantity of cDNA and on the cell type. Represses E-cadherin promoter and induces an epithelial-mesenchymal transition (EMT) by recruiting SMARCA4/BRG1. Represses BCL6 transcription in the presence of the corepressor CTBP1. Positively regulates neuronal differentiation. Represses RCOR1 transcription activation during neurogenesis. Represses transcription by binding to the E box (5'-CANNTG-3'). In the absence of TGFB1, acts as a repressor of COL1A2 transcription via binding to the E-box in the upstream enhancer region (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
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

This product was changed from ascites to supernatant. Lot no's high than GR224480-10 are from Tissue Culture Supernatant

Supplementary info

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

Activity summary	ZEB1 also known as δEF1 is a zinc finger E-box-binding homeobox protein with a molecular weight of approximately 124 kDa. It acts as a transcription factor and plays an important role in the regulation of gene expression by binding to specific DNA sequences. ZEB1 is mainly expressed in epithelial and mesenchymal cells and is involved in a variety of developmental processes during embryogenesis. Its broad expression pattern reflects its versatile function in different tissues and cell types.
Biological function summary	ZEB1 modulates cellular differentiation and identity by repressing and activating target genes. This protein is particularly notable for its involvement in the epithelial-to-mesenchymal transition (EMT) an important biological process for development and wound healing. ZEB1 doesn't act alone; it forms complexes with other transcription factors and co-repressors such as SMAD and CtBP enhancing its regulatory reach. Through these interactions ZEB1 influences cell adhesion molecules and cytoskeletal components facilitating cell motility and invasion.
Pathways	ZEB1 is integral to the TGF-β signaling pathway influencing cellular responses to growth factors. It also intersects with the Wnt signaling pathway linking it to cellular proliferation and differentiation. Through these pathways ZEB1 interacts with other significant proteins including β-catenin and SMAD proteins which collaboratively regulate gene expression that affects cell phenotype and behavior.
Associated diseases and disorders	The dysregulation of ZEB1 is associated with a variety of pathological conditions including cancer and fibrotic diseases. In cancer ZEB1 contributes to tumor progression and metastasis by promoting EMT a process that enables epithelial cells to acquire mesenchymal traits enhancing their migratory capabilities. This mechanism links ZEB1 to the expression of vimentin and the suppression of E-cadherin important markers in cancer prognosis. Additionally in fibrotic disorders ZEB1's interaction with TGF-β signaling promotes pathological tissue remodeling impacting fibrosis development in organs like the liver and lungs.

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.

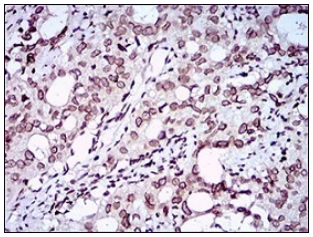
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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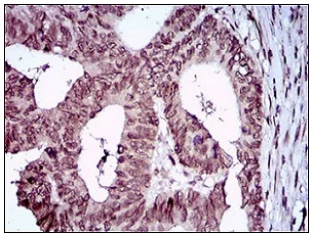
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9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ZEB1 antibody [2A8A6] (ab181451)

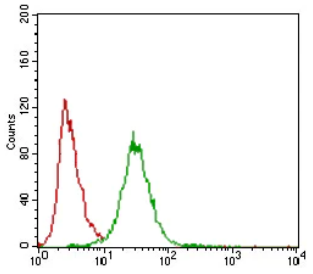
Immunohistochemical analysis of paraffin-embedded Human cervical cancer tissue labeling ZEB1 with ab181451 at 1/200 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ZEB1 antibody [2A8A6] (ab181451)

ZEB1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ZEB1 antibody

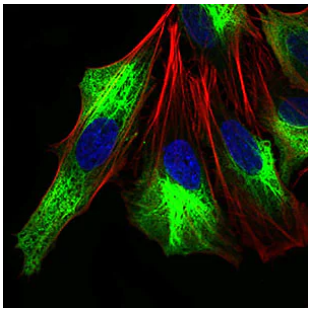
Immunohistochemical analysis of paraffin-embedded Human rectum cancer tissue labeling ZEB1 with ab181451 at 1/200 dilution.



Flow Cytometry - Anti-ZEB1 antibody [2A8A6] (ab181451)

ZEB1 Flow Cytometry staining using mouse Anti-ZEB1 antibody

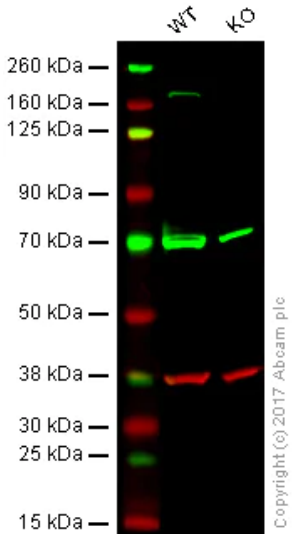
Flow cytometric analysis of HeLa cells labeling ZEB1 (green) with ab181451 at 1/200 dilution. Negative control (red).



Immunocytochemistry/ Immunofluorescence - Anti-ZEB1 antibody [2A8A6] (ab181451)

ZEB1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ZEB1 antibody

Immunofluorescence analysis of HeLa cells labeling ZEB1 (green) with ab181451 at 1/200 dilution. Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.



Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451)

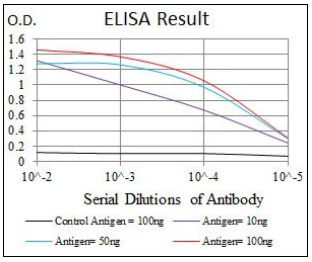
ZEB1 Western blot staining using mouse Anti-ZEB1 antibody

Lane 1: Wild-type HAP1 whole cell lysate (20 µg)
Lane 2: ZEB1 knockout HAP1 whole cell lysate (20 µg)
Lanes 1 - 2: Merged signal (red and green). Green - ab181451 observed at 200 kDa. Red - loading control, ab181602, observed at 37 kDa.

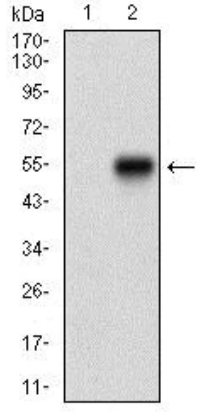
ab181451 was shown to recognize ZEB1 in wild-type HAP1 cells as signal was lost at the expected MW in ZEB1 knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and ZEB1 knockout samples were subjected to SDS-PAGE. ab181451 and ab181602 (Rabbit anti-GAPDH 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-ZEB1 antibody [2A8A6] (ab181451)

Predicted band size: 124 kDa



ELISA - Anti-ZEB1 antibody [2A8A6] (ab181451)



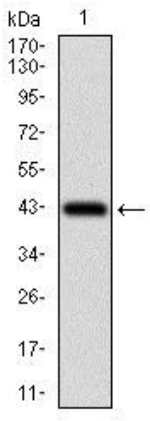
Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451)

All lanes:
Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451) at 1/500 dilution

Lane 1:
HEK293 cell lysate

Lane 2:
KEB1 (AA: 967-1108)-hIgGFc transfected HEK293 cell lysate

Predicted band size: 124 kDa



Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451)

All lanes:
Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451) at 1/500 dilution

All lanes:
ZEB1 recombinant protein fragment (Expected MW is 41.7 kDa)

Predicted band size: 124 kDa

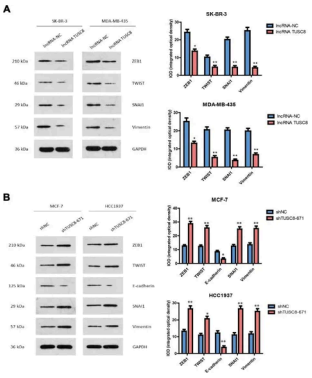


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Western blot - Anti-ZEB1 antibody [2A8A6] (ab181451)

ZEB1 Western blot staining using mouse Anti-ZEB1 antibody

ZEB1 western blot using anti-ZEB1 antibody [2A8A6] ab181451. Publication image and figure legend from Zhao, L., Zhou, Y., et al., 2020, Aging (Albany NY), PubMed 32039833.

ab181451 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab181451 please see the product overview.

TUSC8 affects breast cancer cell metastasis through regulating the expression of epithelial–mesenchymal transition (EMT) related markers. (A) Over-expression of TUSC8 down-regulated the expression of mesenchymal related markers (ZEB1, TWIST, SNAI1 and Vimentin) in breast cancer cell lines SK-BR-3 and MDA-MB-435 by western blot. (B) Knock-down of TUSC8 up-regulated the expression of mesenchymal related markers (ZEB1, TWIST, SNAI1 and Vimentin), while down-regulated the expression of epithelial related marker (E-cadherin) in breast cancer cell lines MCF-7 and HCC1937 by western blot. The asterisks (*, **) indicate a significant difference ($p < 0.05$, $p < 0.01$) respectively.

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