abcam

ab288369

Anti-E2F1 antibody [1D12]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human E2F1. The exact immunogen used to generate this antibody is proprietary information. Database link Q01094
Clone number	1D12
Purification technique	Affinity purification
Concentration	0.4 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Human
Dilution info	1/20 - 1/200
Notes	-

Expected

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

Flow Cyt

Tested

Species	Human
Dilution info	1/20 - 1/200
Notes	-

Expected

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

WB

Tested

Species	Rat
Dilution info	1/500 - 1/5000
Notes	-

Species	Human
Dilution info	1/500 - 1/5000
Notes	-

IHC-P

Tested

Species	Human

Dilution info	1/50 - 1/200
Notes	-

Expected

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

Target data

See full target information E2F1

Function	Transcription activator that binds DNA cooperatively with DP proteins through the E2 recognition site, 5'-TTTC[CG]CGC-3' found in the promoter region of a number of genes whose products are involved in cell cycle regulation or in DNA replication (PubMed:10675335, PubMed:12717439, PubMed:17050006, PubMed:17704056, PubMed:18625225, PubMed:28992046). The DRTF1/E2F complex functions in the control of cell-cycle progression from G1 to S phase (PubMed:10675335, PubMed:12717439, PubMed:17704056). E2F1 binds preferentially RB1 in a cell-cycle dependent manner (PubMed:10675335, PubMed:12717439, PubMed:17704056). It can mediate both cell proliferation and TP53/p53-dependent apoptosis (PubMed:8170954). Blocks adipocyte differentiation by binding to specific promoters repressing CEBPA binding to its target gene promoters (PubMed:20176812). Directly activates transcription of PEG10 (PubMed:17050006, PubMed:18625225, PubMed:28992046). Positively regulates transcription of RRP1B (PubMed:20040599).

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

Supplementary info

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

Activity summary	The E2F1 protein also known as E2F transcription factor 1 is an important regulator of the cell cycle. It has a molecular weight of approximately 47 kDa. E2F1 protein is expressed in many tissues with higher expression levels in proliferating cells. It often acts as a transcription factor by binding to specific DNA sequences controlling the transition of cells from G1 to S phase of the cell cycle. This role is vital for the proper progression of the cycle and cellular proliferation.
Biological function summary	E2F1 plays a significant role in cell growth regulation and apoptosis. E2F1 functions within a complex often forming heterodimers with DP proteins. This combination enhances its ability to bind DNA and activate transcription of genes necessary for DNA replication and cell cycle progression. E2F1 also participates in the control of apoptosis by regulating the expression of pro-apoptotic genes balancing cell proliferation and death.
Pathways	E2F1 is deeply embedded in cell cycle regulatory pathways and the p53 signaling pathway. It closely interacts with proteins like RB (Retinoblastoma protein) and p53. RB protein regulates E2F1 activity by controlling its release while p53 helps in mediating the cell's response to DNA damage potentially leading to either cell cycle arrest or apoptosis. These interactions highlight E2F1's role in maintaining cellular homeostasis.
Associated diseases and disorders	E2F1 is often linked to cancer and neurodegenerative diseases. Overexpression or dysregulation of E2F1 can lead to uncontrolled cell proliferation contributing to oncogenesis. In the context of neurodegenerative diseases E2F1 influences neuronal apoptosis and may be associated with disorders such as Alzheimer's. E2F1 interacts with other proteins such as p53 in cancer where it affects both cell cycle dynamics and apoptosis illustrating its complex involvement in disease progression.

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

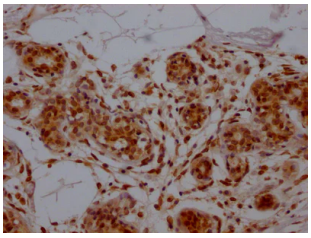
We do not recommend this combination. It is not covered by our product promise.

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.

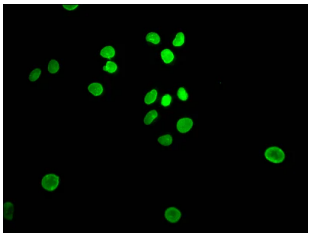
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E2F1 antibody [1D12] (ab288369)

E2F1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-E2F1 antibody

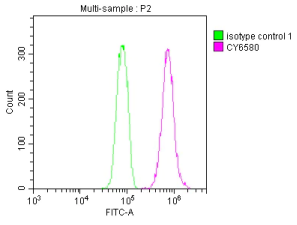
IHC image of ab288369 diluted at 1:100 and staining in paraffin-embedded human breast cancer performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30 min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Immunocytochemistry - Anti-E2F1 antibody [1D12] (ab288369)

E2F1 Immunocytochemistry staining using rabbit Anti-E2F1 antibody

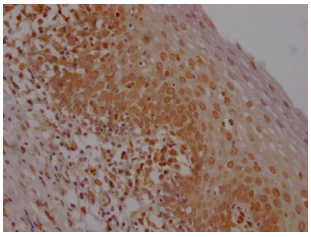
Immunofluorescence staining of HeLa cells with ab288369 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeated by 0.2% Triton X-100, and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. Nuclear DNA was labeled in blue with DAPI. The secondary antibody was FITC-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



Flow Cytometry - Anti-E2F1 antibody [1D12] (ab288369)

E2F1 Flow Cytometry staining using rabbit Anti-E2F1 antibody

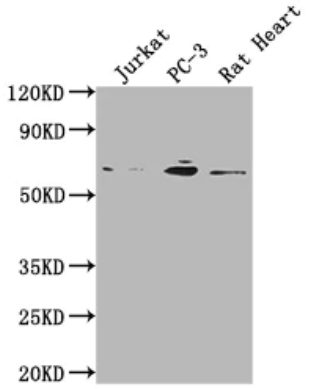
Overlay histogram showing HeLa cells stained with ab288369 (red line) at 1:50. The cells were fixed with 70% Ethylalcohol (18h) and then incubated in 10% normal goat serum to block non-specific protein-protein interactions followedby the antibody (1µg/1 x 10^6cells) for 1 h at 4°C.The secondary antibody used was FITC-conjugated goat anti-rabbit IgG (H+L) at 1/200 dilution for 30 min at 4°C. Control antibody (green line) was Rabbit IgG (1µg/1 x 10^6cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E2F1 antibody [1D12] (ab288369)

E2F1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-E2F1 antibody

IHC image of ab288369 diluted at 1:100 and staining in paraffin-embedded human tonsil tissue performed on a Leica Bond™ 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 30 min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.



Western blot - Anti-E2F1 antibody [1D12] (ab288369)

All lanes:
Western blot - Anti-E2F1 antibody [1D12] (ab288369) at 1/2000 dilution

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

Lane 2:
PC-3 (Human prostate adenocarcinoma cell line) whole cell lysate

Lane 3:
Rat heart tissue

Secondary

All lanes:
Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 47 kDa

Observed band size: 60 kDa

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