abcam

ab314180

Anti-E2F4 antibody [24E12]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human E2F4. Database link Q16254
Clone number	24E12
Purification technique	Affinity purification
Concentration	1.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/200
Notes	-

Target data

See full target information E2F4

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. The DRTF1/E2F complex functions in the control of cell-cycle progression from G1 to S phase. E2F4 binds with high affinity to RBL1 and RBL2. In some instances can also bind RB1. Specifically required for multiciliate cell differentiation: together with MCIDAS and E2F5, binds and activate genes required for centriole biogenesis.

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

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	E2F4 sometimes known as E2F-4 is part of the E2F family of transcription factors. It plays a critical role in controlling the cell cycle by regulating the expression of genes necessary for DNA synthesis. E2F4 has a molecular weight of around 45 kDa. These transcription factors are widely expressed in a variety of tissues reflecting their importance in cell biology. E2F4 typically functions by forming complexes with dimerization partner (DP) proteins mainly in the nucleus where it binds to DNA and influences transcription.
Biological function summary	E2F4 functions as a regulator of cell cycle progression. It forms complexes localizing mostly in the nucleus controlling the transition from G1 to S phase by regulating genes associated with cell cycle arrest and DNA replication. Partnering with members of the DP family enhances its DNA binding capacity influencing genes involved in cell cycle arrest and DNA repair processes. E2F4 predominantly acts as a transcriptional repressor in quiescent and differentiating cells maintaining the cell in a non-proliferative state.
Pathways	E2F4 is significant in the regulation of the cell cycle and DNA damage response pathways. It engages with the retinoblastoma protein family (pRB p107 p130) to exert repressive effects on E2F-target genes ensuring proper cell cycle exit and maintaining the G0 phase. The interaction with p130 is instrumental during the G0 state preventing inappropriate cell proliferation and contributing to the maintenance of cellular quiescence.
Associated diseases and disorders	E2F4's role is noteworthy in cancer and retinoblastoma. Alterations in its regulation or activity can lead to unchecked cell proliferation a hallmark of cancerous growths. The malfunction or suppression of its activity can disrupt cell cycle control contributing to oncogenesis. In instances of retinoblastoma improper interaction between E2F4 and the retinoblastoma protein family can result in disrupted cell cycle checkpoints highlighting its importance in maintaining cellular homeostasis and preventing tumorigenesis.

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

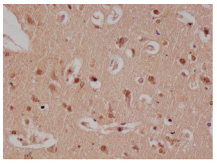
We do not recommend this combination. It is not covered by our product promise.

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.

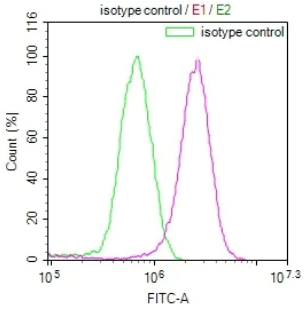
Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-E2F4 antibody [24E12] (ab314180)

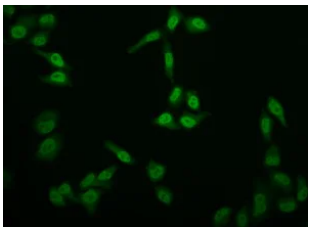
Immunohistochemical analysis of ab314180 diluted at 1:100 and staining in paraffin-embedded human brain tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Flow Cytometry (Intracellular) - Anti-E2F4 antibody [24E12] (ab314180)

E2F4 Flow Cytometry (Intracellular) staining of MCF7 cells using rabbit Anti-E2F4 antibody

Overlay Peak curve showing MCF7 (Human breast adenocarcinoma cell line) cells stained with ab314180 (pink line) at 1:100. The cells were fixed in 4% formaldehyde and permeated by 0.2% Triton X-100. Then 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (1ug/1x10E6cells) for 45min at 4°C. The secondary antibody used was FITC-conjugated Goat Anti-rabbit IgG (H+L) at 1:200 dilution for 35min at 4°C. Control antibody (green line) was rabbit IgG (1ug/1x10E6cells) used under the same conditions. Acquisition of >10,000 events was performed.



Immunocytochemistry/ Immunofluorescence - Anti-E2F4 antibody [24E12] (ab314180)

Immunofluorescence staining of HeLa (Human epithelial cell line from cervix adenocarcinoma) cells with ab314180 at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor® 513-conjugated Goat Anti-Rabbit IgG (H+L).

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