abcam

ab59047

FITC Anti-DR4 antibody [DR-4-02]

Anti-DR4 antibody [DR-4-02] conjugated to FITC - suitable for flow cytometry, FuncS, IP, and reacts with human samples. Clone [DR-4-02] is a mouse monoclonal antibody cited in 8 publications.

Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human TNFRSF10A. The exact immunogen used to generate this antibody is proprietary information. Database link O00220
Clone number	DR-4-02
Purification technique	Size-exclusion chromatography
Specificity	The antibody recognizes TRAIL R1 (DR4), a human death receptor 4 (468 amino acids) expressed in most human tissues (spleen, peripheral blood leucocytes, thymus) and in a variety of tumour derived cell lines.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The antibody was >95% pure prior to conjugation as determined from SDS-PAGE (by protein A affinity chromatography).

Reactivity data

Flow Cyt

Tested

Species	Transfected cell line - Human
Dilution info	3-5 µg/mL
Notes	ab91356 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Predicted

Species	Human
Dilution info	-
Notes	-

Target data

See full target information TNFRSF10A

Function	Receptor for the cytotoxic ligand TNFSF10/TRAIL (PubMed:26457518, PubMed:38532423). The adapter molecule FADD recruits caspase-8 to the activated receptor. The resulting death-inducing signaling complex (DISC) performs caspase-8 proteolytic activation which initiates the subsequent cascade of caspases (aspartate-specific cysteine proteases) mediating apoptosis (PubMed:19090789). Promotes the activation of NF-kappa-B (PubMed:9430227).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

Do not use after expiration date stamped on vial label. Short term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.

Soluble antibody blocks DR4 receptor against TRAIL induced apoptosis. Plastic immobilized antibody induces apoptosis in sensitive cells.

The purified antibody is conjugated with Fluorescein isothiocyanate (FITC) under optimum conditions. The reagent is free of unconjugated FITC and adjusted for direct use. No reconstitution is necessary.

Supplementary info

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

Activity summary	DR4 also known as TRAIL-R1 is a receptor with a molecular weight of approximately 60 kDa. It is part of the tumor necrosis factor receptor (TNFR) superfamily. DR4 is widely expressed in various types of tissues such as the liver spleen thymus and peripheral blood leukocytes. It functions mechanically by binding to its ligand TNF-related apoptosis-inducing ligand (TRAIL) which initiates signaling cascades that lead to apoptosis or programmed cell death.
Biological function summary	The death receptor 4 plays an important role in mediating cell apoptosis. Upon ligand binding DR4 interacts with the adapter molecule FADD (FAS-associated protein with death domain) facilitating the formation of the death-inducing signaling complex (DISC). This complex recruits and activates caspase-8 which eventually leads to the activation of the downstream effector caspases driving the cell towards apoptosis. DR4 operates as a significant component of the extrinsic pathway of apoptosis a process important for maintaining cellular homeostasis and eliminating harmful cells.
Pathways	DR4 functions critically within the extrinsic apoptotic pathway. This pathway involves other death receptors such as DR5 which also binds TRAIL similarly leading to apoptosis through DISC formation and caspase activation. The extrinsic pathway interconnects with the intrinsic pathway via the mitochondria with proteins like Bid acting as a bridge between them. The engagement of these pathways highlights DR4's importance in regulatory mechanisms of cell death tightly controlling cellular proliferation and survival.
Associated diseases and disorders	DR4 plays a significant role in cancer and autoimmune diseases. Alterations in DR4 expression or function can lead to evasion of apoptosis by cancer cells contributing to tumor progression. The defective apoptotic signaling via DR4 is also linked to autoimmune disorders where insufficient apoptosis may allow for the survival of autoreactive immune cells. In both scenarios DR4's involvement usually associates with its counterpart DR5 as they share similar ligand-binding properties and signal transduction mechanisms in diseased states.

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.

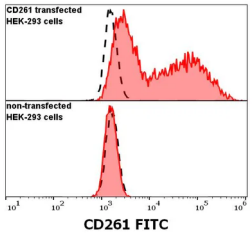
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1 product image



Flow Cytometry - FITC Anti-DR4 antibody [DR-4-02] (ab59047)

DR4 Flow Cytometry staining using mouse Anti-DR4 antibody

Anti-Hu CD261 FITC antibody (concentration in sample 3 µg/ml, red-filled histogram) binds specifically to CD261 on surface of CD261 transfected HEK-293 cells (upper panel), but not to surface of non-transfected HEK-293 cells (lower panel). Level of non-specific binding was assessed using Mouse IgG1 isotype control FITC antibody under same conditions (concentration in sample 3 µg/ml, black-dashed histogram).

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