abcam

ab14738

Anti-DR4 antibody [DR-4-02] - Low endotoxin, Azide free

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
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
Carrier free	Yes
Clone number	DR-4-02
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	3-5 µg/mL

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

ICC/IF

Tested

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 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	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

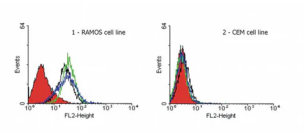
We do not recommend this combination. It is not covered by our product promise.

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.

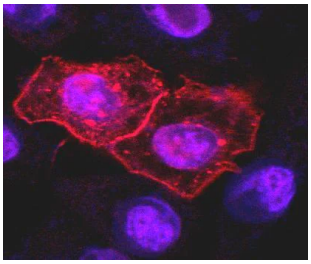
2 product images



Flow Cytometry - Anti-DR4 antibody [DR-4-02] - Low endotoxin, Azide free (ab14738)

DR4 Flow Cytometry staining using mouse Anti-DR4 antibody

Flow Cytometry analysis of DR4 expression on the surface of hematopoietic cell lines. Cells were stained with purified anti-DR4 antibodies (ab14738) followed by Goat anti-mouse IgG PE. Histograms: Red - Goat anti-mouse IgG PE (no primary antibody) Black - anti-DR4 comparative antibody Blue and Green - anti-DR4 (ab14738:DR-4-02) in duplicate staining



Immunocytochemistry/ Immunofluorescence - Anti-DR4 antibody [DR-4-02] - Low endotoxin, Azide free (ab14738)

DR4 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-DR4 antibody

Immunofluorescence staining (confocal microscopy) of HeLa human cervix carcinoma cell line transfected with DR4 expression plasmid using anti-human DR4 (ab14738:DR-4-02).

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