abcam

ab199357

Anti-DR5 antibody [EPR19310]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR19310
Purification technique	Affinity purification Protein A
Concentration	0.698 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/70
Notes	-

Target data

See full target information TNFRSF10B

Function Receptor for the cytotoxic ligand TNFSF10/TRAIL (PubMed:10549288). 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. Promotes the activation of NF-kappa-B. Essential for ER stress-induced apoptosis.

Storage

Shipped at conditions	Conditional Ambient
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

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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	DR5 also known as Death Receptor 5 TRAIL-R2 or TNFRSF10B is a protein critical in apoptosis. It is a transmembrane receptor with a mass of approximately 54 kDa. Researchers find it expressed mostly in tissues such as lung colon and prostate. DR5 functions by binding to its ligand TRAIL triggering the extrinsic apoptotic pathway. Through this mechanism DR5 initiates a cascade of caspase activation that leads to cell death.
Biological function summary	DR5 plays a significant role in the regulation of apoptosis particularly in cancer cells. It is a component of the TRAIL receptor complex which includes several other death receptors like DR4. This complex formation allows DR5 to mediate apoptotic signals more efficiently. By controlling apoptosis DR5 helps maintain tissue homeostasis and prevents abnormal cell proliferation.
Pathways	DR5 is an important part of the TRAIL signaling pathway and the extrinsic apoptosis pathway. It connects with proteins like FADD and Caspase-8 essential in the apoptotic signaling cascade. By interacting with these proteins DR5 drives the progression of the apoptotic signal ensuring the removal of dysfunctional cells. Such pathways are vital for restraining tumor development and progression.

Associated diseases and disorders	DR5 exhibits significant relevance to cancer and autoimmune diseases. Its ability to induce apoptosis through the TRAIL pathway keeps oncogenic transformations in check. In cancer DR5 often interfaces with other proteins like Bcl-2 which are involved in cell survival. Furthermore defects or aberrant expressions in DR5 have associations with autoimmune disorders where excessive cell death or survival contributes to disease pathology. DR5's role in these conditions makes it a promising target in therapeutic strategies.

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

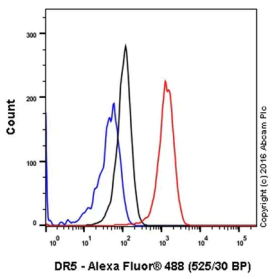
We do not recommend this combination. It is not covered by our product promise.

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.

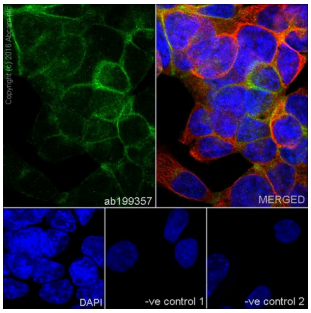
8 product images



Flow Cytometry (Intracellular) - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 Flow Cytometry (Intracellular) staining using rabbit Anti-DR5 antibody

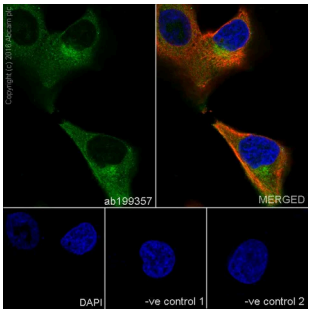
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HCT 116 (Human colorectal carcinoma cell line) cells labeling DR5with ab199357 at 1/70 dilution (red) compared with aRabbit IgG,monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti Rabbit IgG (Alexa Fluorr® 488) at 1/2000 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-DR5 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HCT 116 (Human colorectal carcinoma cell line) cells labeling DR5 with ab199357 at 1/100 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous and cytoplasmic staining on HCT 116 cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).
The negative controls are as follows:
-ve control 1: ab199357 at 1/100 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.

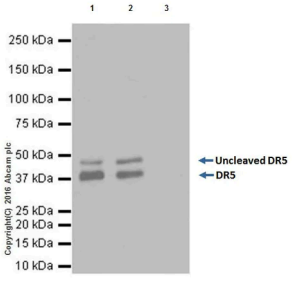


Immunocytochemistry/ Immunofluorescence - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-DR5 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HT1080 (Human fibrosarcoma cell line) cells labeling DR5 with ab199357 at 1/100 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on HT1080 cells. The nuclear counter stain is DAPI (blue).
Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) at1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:
-ve control 1: ab199357 at 1/100 dilution followed by ab150120 at 1/1000 dilution.
-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunoprecipitation - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 was immunoprecipitated from 0.35mg of HT1080 (Human fibrosarcoma cell line) treated with 5µM MG132 for 4 hour whole cell lysate with ab199357 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab199357 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: HT1080 treated with 5µM MG132 for 4 hour whole cell lysate, 10µg (Input).

Lane 2: ab199357 IP in HT1080 treated with 5µM MG132 for 4 hour whole cell lysate.

Lane 3: Rabbit IgG,monoclonal [EPR25A] - Isotype Control (ab172730) instead of ab199357 in HT1080 treated with 5µM MG132 for 4 hour whole cell lysate.

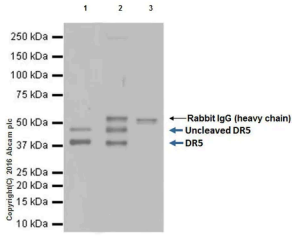
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

All lanes:
Immunoprecipitation - Anti-DR5 antibody [EPR19310] (ab199357)

Predicted band size: 47 kDa

Immunoprecipitation - Anti-DR5 antibody [EPR19310] (ab199357)



DR5 was immunoprecipitated from 0.35mg of HCT 116 (Human colorectal carcinoma cell line) whole cell lysate with ab199357 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab199357 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: HCT 116 whole cell lysate, 10µg (Input).

Lane 2: ab199357 IP in HCT 116 whole cell lysate.

Lane 3: Rabbit IgG,monoclonal [EPR25A] - Isotype Control (ab172730) instead of ab199357 in HCT 116 whole cell lysate.

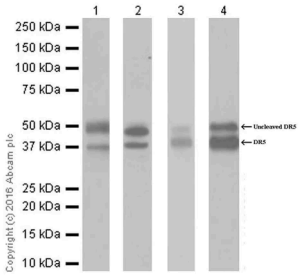
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

All lanes:
Immunoprecipitation - Anti-DR5 antibody [EPR19310] (ab199357)

Predicted band size: 47 kDa

Western blot - Anti-DR5 antibody [EPR19310] (ab199357)



Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: Lane 1-2: 3 minutes; Lane 3: 10 seconds; Lane 4: 8 seconds.

The expression profile is consistent with what has been described in the literature (PMID:20515924; PMID:16297203).

All lanes:
Western blot - Anti-DR5 antibody [EPR19310] (ab199357) at 1/1000 dilution

Lane 1:
Human melanoma lysate at 10 µg

Lane 2:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 10 µg

Lane 3:
HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 10 µg

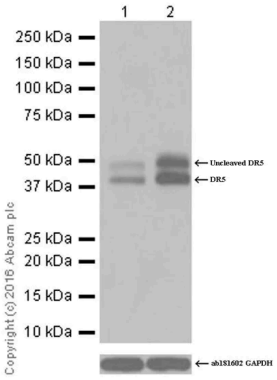
Lane 4:
HT1080 (Human fibrosarcoma cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 47 kDa

Observed band size: 40 kDa, 48 kDa



Western blot - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 Western blot staining using rabbit Anti-DR5 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Doxorubicin treatment elevated the expression of DR5 (PMID: 12496481; PMID: 11468181; PMID: 11090076). The expression profile is consistent with what has been described in the literature (PMID:20515924; PMID:16297203).

All lanes:
Western blot - Anti-DR5 antibody [EPR19310] (ab199357) at 1/1000 dilution

Lane 1:
Untreated HCT 116 (Human colorectal carcinoma cell line) whole cell lysate at 20 µg

Lane 2:
HCT 116 (Human colorectal carcinoma cell line) treated with 0.5µM/ml doxorubicin for 24 hours whole cell lysate at 20 µg

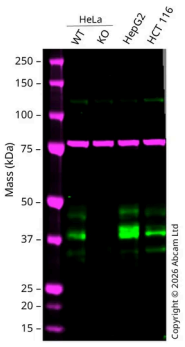
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 47 kDa

Observed band size: 40 kDa, 48 kDa

Exposure time: 8s



Western blot - Anti-DR5 antibody [EPR19310] (ab199357)

DR5 Western blot staining using rabbit Anti-DR5 antibody

Western blot: Anti-DR5 antibody [EPR19310] ab199357 staining at 1/1000 dilution, shown in green; Mouse anti-CANX ab238078 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 37-50 kDa in Wild-type HeLa cell lysates with no signal observed at this size in TNFRSF10B knockout HeLa cell line. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-DR5 antibody [EPR19310] (ab199357) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysates at 20 µg

Lane 2:
Western blot - Human TNFRSF10B (DR5) knockout HeLa cell line (ab264922) at 20 µg

Lane 3:
HepG2 cell lysates at 20 µg

Lane 4:
HCT 116 cell lysates at 20 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 47 kDa

Observed band size: 37-50 kDa

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