abcam

ab131211

Anti-ESD antibody [EPR8446]

Recombinant | RabMAb | KO Validated

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	EPR8446
Purification technique	Affinity purification Protein A
Concentration	0.195 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information S-formylglutathione hydrolase

Function	Serine hydrolase involved in the detoxification of formaldehyde.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	ESD also known as esterase D or S-formylglutathione hydrolase is a protein with a mass of approximately 31 kDa. ESD is expressed in various tissues and cells including HEK-293T cells. Cell lysate studies often utilize the ESD line to analyze its enzymatic activity and expression profile. The protein plays a mechanical role in hydrolyzing esters of glutathione contributing to the detoxification processes within the cell.
Biological function summary	ESD contributes to maintaining cellular homeostasis through its role in detoxification and response to oxidative stress. It interacts with the degradation of S-formylglutathione a byproduct formed during alcohol metabolism. ESD is not typically associated with a larger protein complex but its enzymatic function is important for cellular health and efficient elimination of toxic metabolites protecting cells from damage and supporting metabolic pathways.

Pathways	ESD's enzymatic activity is integrated into the glutathione metabolism and alcohol metabolism pathways. Here ESD acts alongside enzymes like glutathione S-transferase to convert harmful aldehydes into less toxic forms aiding in cellular resilience. The protein helps modulate oxidative stress responses cooperating indirectly with other detoxification proteins within these pathways to maintain optimal cellular function.
Associated diseases and disorders	ESD associations include certain forms of cancer and neurodegenerative diseases. Abnormal ESD expression or activity can result in disturbed detoxification leading to oxidative stress and cell damage. In cancer ESD has been implicated in tumor progression potentially linked with other proteins like GSTP1 which also participates in detoxification. In neurodegenerative conditions defective detoxification pathways involving ESD may contribute to neuronal injury and disease progression making it a potential target for therapeutic exploration.

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

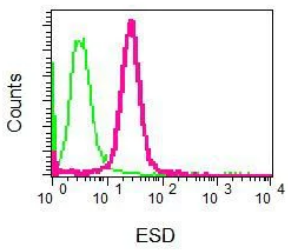
We do not recommend this combination. It is not covered by our product promise.

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.

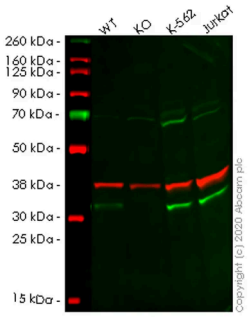
3 product images



Flow Cytometry (Intracellular) - Anti-ESD antibody [EPR8446] (ab131211)

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

ab131211 at 1/10 labelling ESD in permeabilized Jurkat cells by intracellular flow cytometry. Rabbit IgG negative control is in green.



Western blot - Anti-ESD antibody [EPR8446] (ab131211)

ESD Western blot staining using rabbit Anti-ESD antibody

Lanes 1-4: Merged signal (red and green). Green - ab131211 observed at 31 kDa. Red - loading control ab8245 observed at 36 kDa.
ab131211 Anti-ESD antibody [EPR8446] was shown to specifically react with ESD in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab266360 (knockout cell lysate ab257942) was used. Wild-type and ESD knockout samples were subjected to SDS-PAGE. ab131211 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-ESD antibody [EPR8446] (ab131211) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T (Human epithelial cell line from embryonic kidney transformed with large T antigen) whole cell lysate at 20 µg

Lane 2:
Western blot - Human ESD knockout HEK-293T cell lysate (ab257942)

Lane 3:
K562 (Human chronic myelogenous leukemia lymphoblast cell line) whole cell lysate at 20 µg

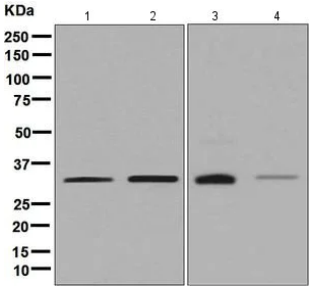
Lane 4:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 31 kDa

Observed band size: 31 kDa



Western blot - Anti-ESD antibody [EPR8446] (ab131211)

All lanes:
Western blot - Anti-ESD antibody [EPR8446] (ab131211) at 1/1000 dilution

Lane 1:
K562 cell lysate at 10 µg

Lane 2:

Jurkat cell lysate at 10 µg

Lane 3:
Caco-2 cell lysate at 10 µg

Lane 4:
HeLa cell lysate at 10 µg

Predicted band size: 31 kDa

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