abcam

ab250271

Anti-CBR3 antibody [EPR14129] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR14129
Purification technique	Affinity purification

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CBR3

Function	Catalyzes the NADPH-dependent reduction of carbonyl compounds to their corresponding alcohols (PubMed:18493841). Has low NADPH-dependent oxidoreductase activity. Acts on several orthoquinones, acts as well on non-quinone compounds, such as isatin or on the anticancer drug oracin (PubMed:15537833, PubMed:18493841, PubMed:19841672). Best substrates for CBR3 is 1,2- naphthoquinone, hence could play a role in protection against cytotoxicity of exogenous quinones (PubMed:19841672). Exerts activity toward ortho-quinones but not paraquinones. No endogenous substrate for CBR3 except isatin has been identified (PubMed:19841672).

Storage

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

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab250271 is the carrier-free version of ab180939.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The enzyme carbonyl reductase 3 commonly known as CBR3 is a member of the short-chain dehydrogenase/reductase superfamily. With a molecular mass of approximately 31 kDa CBR3 catalyzes the reduction of carbonyl compounds into alcohols using NADPH as a cofactor. It is expressed in various tissues including liver kidney and heart where it plays a role in xenobiotic metabolism and the detoxification processes by reducing carbonyl-containing compounds.
Biological function summary	CBR3 operates as a critical component in enzymatic systems that protect against oxidative stress. It reduces reactive carbonyls derived from lipid peroxidation products contributing to cellular antioxidant defenses. Although not typically recognized as part of a large complex its activity often synergizes with other reductases and dehydrogenases in these protective roles. This activity helps to

	limit the damage from lipid peroxidation and therefore maintain cellular function under oxidative stress conditions.
Pathways	CBR3 plays a significant part in the drug metabolism pathway where it metabolizes various therapeutic drugs and environmental toxins. The enzyme interacts closely with NADPH-dependent cofactors and other reductases like CBR1 facilitating phase I detoxification processes. Additionally CBR3 contributes to the prostaglandin synthesis pathway by converting prostaglandin E2 into less active forms interacting relevantly with enzymes involved in prostaglandin metabolism.
Associated diseases and disorders	CBR3 has been linked to anthracycline-induced cardiotoxicity and certain forms of cancer. In cardiac tissues CBR3 expression influences susceptibility to damage caused by anthracycline antibiotics which are commonly used in cancer chemotherapy. Variations in the gene encoding CBR3 affect the metabolism and clearance of these drugs potentially exacerbating cardiac damage. In cancer CBR3 along with proteins like CBR1 modulates susceptibility to chemotherapeutic agents impacting drug efficacy and toxicity. Understanding the polymorphisms of CBR3 may optimize therapeutic strategies and prevent adverse effects in susceptible individuals.

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

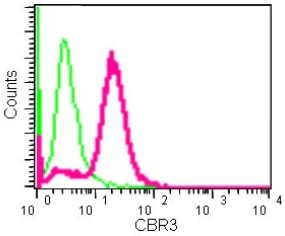
We do not recommend this combination. It is not covered by our product promise.

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.

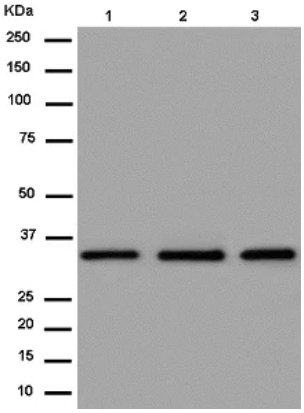
2 product images



Flow Cytometry (Intracellular) - Anti-CBR3 antibody [EPR14129] - BSA and Azide free (ab250271)

CBR3 Flow Cytometry (Intracellular) staining using rabbit Anti-CBR3 antibody

This data was developed using ab180939, the same antibody clone in a different buffer formulation.
Intracellular Flow Cytometry analysis of K562 cells labeling CBR3 using ab180939 at a 1/130 dilution (pink). Goat anti rabbit IgG (FITC) used as the secondary at a 1/150 dilution. Isotype control Rabbit monoclonal IgG (green). Cells were fixed in 2% paraformaldehyde.



Western blot - Anti-CBR3 antibody [EPR14129] - BSA and Azide free (ab250271)

CBR3 Western blot staining using rabbit Anti-CBR3 antibody

This data was developed using ab180939, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-CBR3 antibody [EPR14129] (ab180939) at 1/20000 dilution

Lane 1:
HeLa cell lysate at 20 µg

Lane 2:
K562 cell lysate at 20 µg

Lane 3:
293 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 30 kDa

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