abcam

ab250812

Anti-Cytochrome p450 2C19 antibody [EPR6577] - 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	EPR6577
Purification technique	Affinity purification Protein A
Concentration	1.008 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	-

Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CYP2C19

Function	A cytochrome P450 monooxygenase involved in the metabolism of polyunsaturated fatty acids (PUFA) (PubMed:18577768, PubMed:19965576, PubMed:20972997). Mechanistically, uses molecular oxygen inserting one oxygen atom into a substrate, and reducing the second into a water molecule, with two electrons provided by NADPH via cytochrome P450 reductase (NADPH--hemoprotein reductase) (PubMed:18577768, PubMed:19965576, PubMed:20972997). Catalyzes the hydroxylation of carbon-hydrogen bonds. Hydroxylates PUFA specifically at the omega-1 position (PubMed:18577768). Catalyzes the epoxidation of double bonds of PUFA (PubMed:19965576, PubMed:20972997). Also metabolizes plant monoterpenes such as limonene. Oxygenates (R)- and (S)-limonene to produce carveol and perillyl alcohol

(PubMed:11950794). Responsible for the metabolism of a number of therapeutic agents such as the anticonvulsant drug S-mephenytoin, omeprazole, proguanil, certain barbiturates, diazepam, propranolol, citalopram and imipramine. Hydroxylates fenbendazole at the 4' position (PubMed:23959307).

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

ab250812 is the carrier-free version of ab185213.

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	Cytochrome p450 2C19 also known as CYP2C19 is a member of the cytochrome P450 superfamily of enzymes. It acts as a monooxygenase which means it catalyzes oxidation reactions in several substrates. The enzyme is approximately 55 kDa in mass and is mainly expressed in the liver. However it is also found in other tissues such as the intestines and brain. CYP2C19 plays a role in drug metabolism breaking down various endogenous and xenobiotic compounds.
Biological function summary	Cytochrome p450 2C19 contributes to the body's drug metabolism and detoxification processes. It is not part of any known enzymatic complex but plays a direct role in the metabolism of many clinically relevant drugs including proton pump inhibitors and antiplatelet medications. Through these actions the enzyme protects the body from potentially harmful effects of drugs and helps maintain metabolic homeostasis. This enzyme has genetic polymorphisms that lead to differences in drug metabolism among different individuals.
Pathways	The enzyme plays a significant role in the drug metabolism and pharmacokinetics pathways. CYP2C19 is involved in the hepatic phase I drug metabolism pathway where it metabolizes drugs into more polar excretable forms. It relates to other enzymes like CYP2C9 and CYP2D6 which together with it form the main subfamilies involved in the oxidation of a diverse range of lipophilic drugs and compounds. This allows for the extensive breakdown and unloading of various substances utilized in therapeutic contexts.
Associated diseases and disorders	Cytochrome p450 2C19 variations can influence the metabolism of medications used in the treatment of cardiovascular diseases and depression. For example CYP2C19 polymorphisms affect the activation of the antiplatelet drug clopidogrel impacting patient outcomes in cardiovascular therapies. Additionally in psychiatric disorders variations in CYP2C19 can alter the effectiveness of selective serotonin reuptake inhibitors (SSRIs) which rely on the enzyme for their metabolism. It also links to CYP2C19's relationship with the CYP2C9 and CYP2D6 enzymes which share impact in drug efficacy and safety in different therapeutic areas.

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

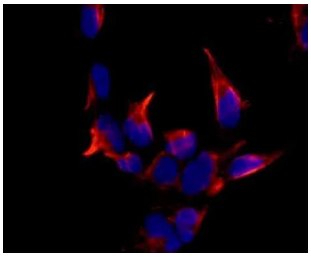
We do not recommend this combination. It is not covered by our product promise.

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.

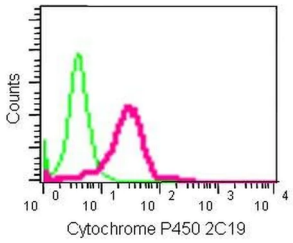
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Cytochrome p450 2C19 antibody [EPR6577] - BSA and Azide free (ab250812)

Cytochrome p450 2C19 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Cytochrome p450 2C19 antibody

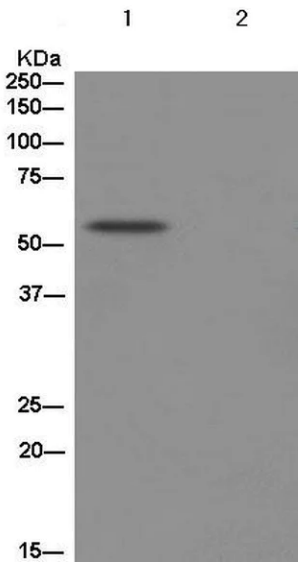
This data was developed using ab185213, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% paraformaldehyde fixed 293 cells labeling Cytochrome P450 2C19 with ab185213 at 1/250 followed by Goat anti rabbit IgG (Alexa Fluor®555) at 1/200 and counterstained with Dapi.



Flow Cytometry (Intracellular) - Anti-Cytochrome p450 2C19 antibody [EPR6577] - BSA and Azide free (ab250812)

Cytochrome p450 2C19 Flow Cytometry (Intracellular) staining using rabbit Anti-Cytochrome p450 2C19 antibody

This data was developed using ab185213, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde fixed HeLa cells labeling Cytochrome P450 2C19 with ab185213 at 1/240 (red) or Rabbit monoclonal IgG (green) followed by Goat anti rabbit IgG (FITC) at 1/150.



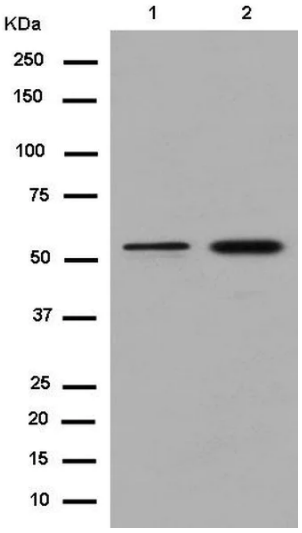
Immunoprecipitation - Anti-Cytochrome p450 2C19 antibody [EPR6577] - BSA and Azide free (ab250812)

This data was developed using ab185213, the same antibody clone in a different buffer formulation.
Immunoprecipitation analysis of 293 cell lysate immunoprecipitated for Cytochrome P450 2C19 using ab185213 at 1/50 dilution (Lane 1). An Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 dilution was used as secondary. Lane 2: PBS instead of 293 lysates.

All lanes:
Immunoprecipitation - Anti-Cytochrome p450 2C19 antibody [EPR6577] - C-terminal (ab185213)

Predicted band size: 56 kDa

Observed band size: 52 kDa



Western blot - Anti-Cytochrome p450 2C19 antibody [EPR6577] - BSA and Azide free (ab250812)

Cytochrome p450 2C19 Western blot staining using rabbit Anti-Cytochrome p450 2C19 antibody

This data was developed using ab185213, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Cytochrome p450 2C19 antibody [EPR6577] - C-terminal (ab185213) at 1/5000 dilution

Lane 1:
HeLa cell lysate at 10 µg

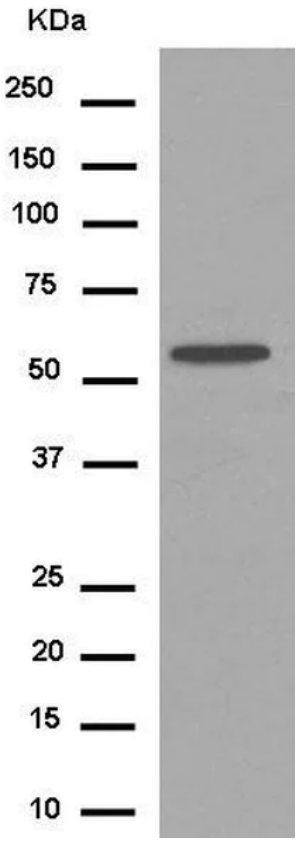
Lane 2:
293 cell lysate at 10 µg

Secondary

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

Predicted band size: 56 kDa

Observed band size: 52 kDa



Western blot - Anti-Cytochrome p450 2C19 antibody [EPR6577] - BSA and Azide free (ab250812)

This data was developed using ab185213, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Cytochrome p450 2C19 antibody [EPR6577] - C-terminal (ab185213) at 1/1000 dilution

All lanes:
Human fetal liver lysate at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 56 kDa

Observed band size: 52 kDa

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