abcam

ab110307

Anti-Epoxide hydrolase antibody [15B2AD9]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	15B2AD9
Purification technique	Proprietary technique
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The purity of ab110307 is near homogeneity as judged by SDS-PAGE (purity >95%). The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Target data

See full target information EPHX1

Function	Biotransformation enzyme that catalyzes the hydrolysis of arene and aliphatic epoxides to less reactive and more water soluble dihydrodiols by the trans addition of water (By similarity). Plays a role in the metabolism of endogenous lipids such as epoxide-containing fatty acids (PubMed:22798687). Metabolizes the abundant endocannabinoid 2-arachidonoylglycerol (2-AG) to free arachidonic acid (AA) and glycerol (PubMed:24958911). Binds 20(S)-hydroxycholesterol (20(S)-OHC) (By similarity).

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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	Epoxide hydrolase also known as EH or EPHX is an enzyme that catalyzes the conversion of epoxides to dihydrodiols. This reaction is important for detoxifying harmful compounds making epoxide hydrolase an important player in maintaining cellular health. The enzyme typically has a molecular mass around 53 kDa. Epoxide hydrolase is expressed in various tissues with significant activity observed in the liver where it contributes to the metabolism of xenobiotics. Alternate forms such as epoxide hydrolase 2 also exist each with specific functions and expression patterns.
Biological function summary	The enzyme aids in the metabolic processing of xenobiotic and endogenous epoxides reducing their potential toxicity. Epoxide hydrolase operates by hydrolyzing epoxide substrates which can be harmful if accumulated. The enzyme is not part of a known permanent complex but interacts transiently with various substrates. Its biological role extends to maintaining the equilibrium between pro-inflammatory and anti-inflammatory mediators due to its influence on lipid epoxide metabolism.
Pathways	Epoxide hydrolase plays a role in the arachidonic acid metabolic pathway where it converts epoxide intermediates into more polar diols. This action regulates the balance of eicosanoids lipid signaling molecules vital for inflammation and immune responses. The enzyme also functions alongside other detoxification enzymes such as cytochrome P450s to facilitate the biotransformation of a wide array of compounds including pharmaceutical agents.
Associated diseases and disorders	Epoxide hydrolase is linked to several conditions. Polymorphisms in the gene encoding epoxide hydrolase have associations with susceptibility to various cancers due to altered detoxification capacities. Abnormalities in enzyme activity are also associated with cardiovascular diseases as epoxide hydrolase regulates lipid mediators that modulate blood pressure and vascular tone. In these contexts the enzyme's regulatory role intersects with proteins involved in inflammation and vascular biology like cytochrome P450s and vascular endothelial growth factor (VEGF) influencing disease progression and treatment outcomes.

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.

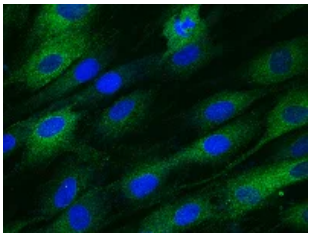
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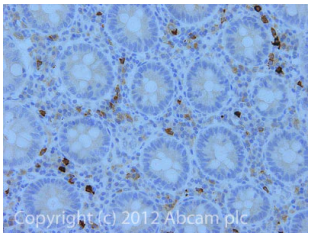
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-Epoxide hydrolase antibody [15B2AD9] (ab110307)

Epoxide hydrolase Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Epoxide hydrolase antibody

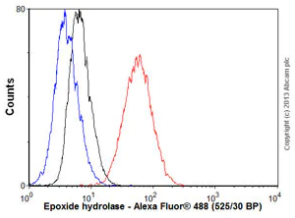
Immunocytochemistry image of ab110307-stained Human HDFn cells.
The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15 min). The cells were incubated with ab110307 at 4 µg/ml for 2 hours at room temperature or over night at 4°C. The secondary antibody was (green) Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour. 10% Goat serum was used as the blocking agent for all blocking steps. DAPI was used to stain the cell nuclei (blue).
Target protein locates mainly in microsomal/ER.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Epoxide hydrolase antibody [15B2AD9] (ab110307)

Epoxide hydrolase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-Epoxide hydrolase antibody

IHC image of Epoxide hydrolase staining in Human normal colon formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab110307, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times



Flow Cytometry - Anti-Epoxide hydrolase antibody [15B2AD9] (ab110307)

Epoxide hydrolase Flow Cytometry staining using mouse Anti-Epoxide hydrolase antibody

Overlay histogram showing HepG2 cells stained with ab110307 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab110307, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-mouse IgG (H&L) (ab150113) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

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