abcam

Product datasheet

Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9] ab171449

KO VALIDATED

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Overview

Product name	Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9]
Description	Alexa Fluor® 488 Mouse monoclonal [8F6AE9] to CPT1A
Host species	Mouse
Conjugation	Alexa Fluor® 488. Ex: 495nm, Em: 519nm
Tested applications	**Suitable for:** ICC/IF, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat **Does not react with:** Cow
Immunogen	Recombinant fragment corresponding to Human CPT1A aa 450 to the C-terminus (C terminal). Database link: **P50416**
Positive control	Flow Cyt (Intra): HeLa cells, HAP1-WT cells. ICC/IF: HeLa cells.
General notes	Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or **outlicensing@thermofisher.com**. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or

contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Product was previously marketed under the MitoSciences sub-brand.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Avoid freeze / thaw cycle. Stable for 12 months at -20°C. Store In the Dark.
Storage buffer	Preservative: 0.02% Sodium azide Constituents: 1% BSA, 98% PBS
Purity	Ammonium Sulphate Precipitation
Purification notes	Purity is near homogeneity as judged by SDS-PAGE. ab171449 was produced in vitro using hybridomas grown in serum-free medium, and then concentrated by ammonium sulfate precipitation.
Clonality	Monoclonal
Clone number	8F6AE9
Isotype	IgG2b

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab171449 in the following tested applications.

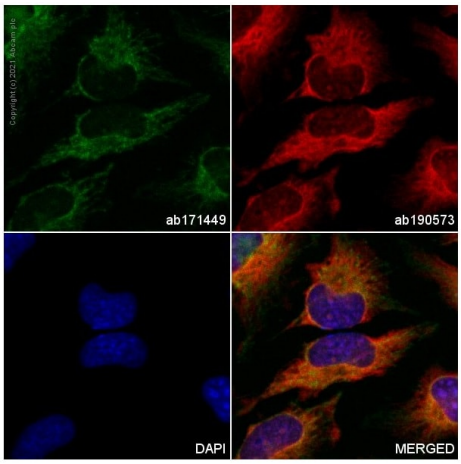
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use a concentration of 5 µg/ml.
Flow Cyt (Intra)		Use a concentration of 5 µg/ml. **ab171465** - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Target

Tissue specificity	Strong expression in kidney and heart, and lower in liver and skeletal muscle.
Pathway	Lipid metabolism; fatty acid beta-oxidation.
Involvement in disease	Defects in CPT1A are the cause of carnitine palmitoyltransferase 1A deficiency (CPT1AD) [MIM:255120]; also known as CPT-I deficiency or CPT1A deficiency. CPT1AD is a rare autosomal recessive metabolic disorder of long-chain fatty acid oxidation characterized by severe episodes of hypoketotic hypoglycemia usually occurring after fasting or illness. Onset is in infancy or early childhood.
Sequence similarities	Belongs to the carnitine/choline acetyltransferase family.
Cellular localization	Mitochondrion outer membrane.

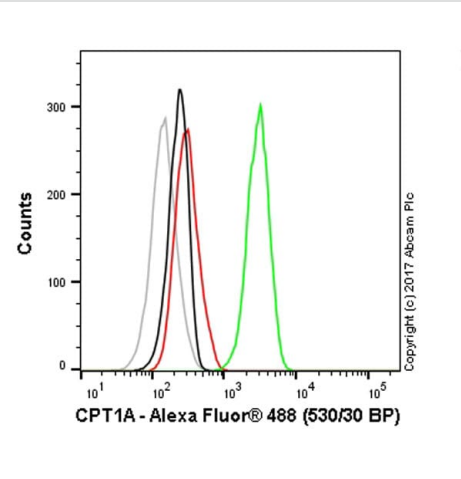
Images



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9] (ab171449)

ab171449 staining CPT1A in HeLa cells. The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab171449 at 1/1000 dilution (shown in green) and **ab190573**, Rabbit monoclonal to alpha Tubulin (Alexa Fluor® 647), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

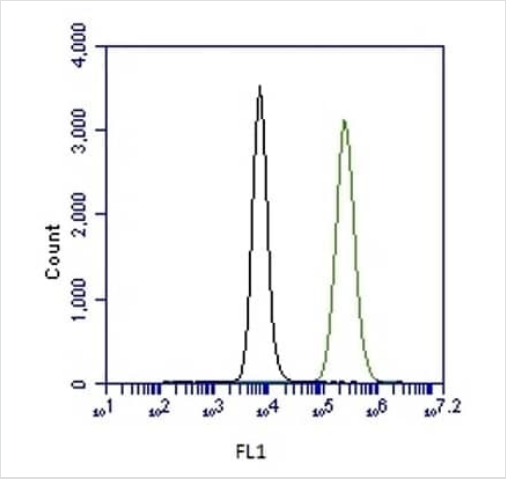


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9] (ab171449)

Overlay histogram showing HAP1 wildtype (green line) and HAP1-CPT1A knockout cells (red line) stained with ab171449. The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab171449, 1µg/ml dilution) for 30 min at 22°C.

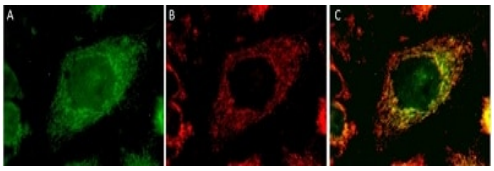
A rabbit monoclonal IgG isotype control antibody (**ab199091**) was used at the same concentration and conditions as the primary antibody (HAP1 wildtype - black line, HAP1-CPT1A knockout - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter.



Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9] (ab171449)

Flow cytometric analysis of HeLa cells (4% paraformaldehyde-fixed; methanol-permeablized) labeling CPT1A with ab171449 at 5 µg/mL (green) compared with an isotype control **ab170192** at 5 µg/mL (black). Isotype control was labeled with a Goat Anti-mouse Alexa Fluor® 488 secondary antibody prior to signal measurement on the FL-1 channel.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-CPT1A antibody [8F6AE9] (ab171449)

Immunofluoresecence analysis of HeLa cells (4% paraformaldehyde-fixed, methanol-permeablized) labeling CPT1A with ab171449 at 5µg/ml overnight. 100x magnification.

A) HeLa cells labeled with ab171449 at 5 µg/mL.
B) HeLa cells labeled with Anti-HSP60 (1/3000, **ab46798**), Secondary antibody used was goat anti-rabbit Dylight-594 (1/1000, **ab96897**).
C) Merged Image of A and B showing specificity of mitochondrial staining.

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