abcam

ab110256

Anti-Surf1 antibody [21H2BG4]

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
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	21H2BG4
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Near homogeneity as judged by SDS-PAGE. The antibody was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	0.1 µg for 10^6 Cells

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SURF1

Function	Component of the MITRAC (mitochondrial translation regulation assembly intermediate of cytochrome c oxidase complex) complex, that regulates cytochrome c oxidase assembly.

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	Surf1 also known as SURF1 homolog or SURF1 cytochrome c oxidase assembly protein has a molecular mass of approximately 33 kDa. It localizes mainly in the inner mitochondrial membrane of eukaryotic cells. The expression of Surf1 is widespread found in tissues with high metabolic demand like the heart brain and skeletal muscle. Surf1 plays an important role in the proper functioning of mitochondria which are the powerhouses of the cell generating energy in the form of ATP.
Biological function summary	Surf1 assists in the assembly of cytochrome c oxidase (COX) the last enzyme in the mitochondrial respiratory chain complex IV. It interacts with various subunits of the COX complex ensuring their proper assembly and stability within the inner mitochondrial membrane. Through its role in COX assembly Surf1 supports efficient electron transport and energy production which is critical for cellular respiration.
Pathways	Surf1 contributes to electron transport chain pathways and oxidative phosphorylation. It facilitates the integration of COX subunits into a functional complex. Surf1 interacts with other mitochondrial proteins like COX10 and COX15 which are involved in heme A biosynthesis a critical component of COX. Together these proteins ensure the efficient production and transfer of ATP maintaining cellular energy balance.
Associated diseases and disorders	Surf1 mutations relate strongly to Leigh syndrome a severe neurological disorder. This disorder results from defective energy production due to impaired cytochrome c oxidase assembly. Children with Leigh syndrome often exhibit symptoms like movement disorders and brain abnormalities. Surf1 abnormalities can also connect with other conditions involving compromised mitochondrial function linking it to proteins involved in mitochondrial maintenance and function such as NDUFS4. These associations emphasize the significance of Surf1 in maintaining cellular health and energy production.

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

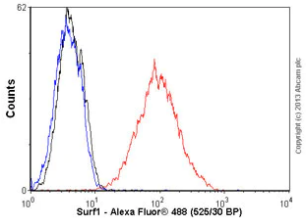
We do not recommend this combination. It is not covered by our product promise.

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.

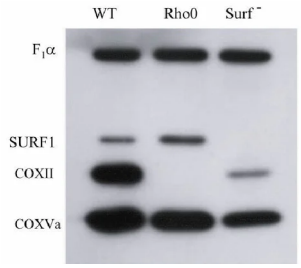
2 product images



Flow Cytometry - Anti-Surf1 antibody [21H2BG4] (ab110256)

Surf1 Flow Cytometry staining using mouse Anti-Surf1 antibody

Overlay histogram showing HepG2 cells stained with ab110256 (red line). The cells were fixed with 80% methanol (5 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 (ab110256, 0.1µg/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. This antibody gave a positive signal in HepG2 cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-Surf1 antibody [21H2BG4] (ab110256)

Complex IV assembly factor SURF1 identification. This mAb can be used to verify the presence of Complex IV assembly factor SURF1. Blotted alongside are mAbs against the ATP synthase subunit F1α subunit, an abundant mitochondrial protein acting as a control for gel loading. To indicate the assembly state of the cytochrome c oxidase, mAbs against the nuclear cytochrome c oxidase subunit COXVα and the mitochondrially encoded COXII subunit are also blotted in this Figure.
All lanes:
Western blot - Anti-Surf1 antibody [21H2BG4] (ab110256)

Predicted band size: 33 kDa

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