abcam

ab221934

# Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free

Recombinant | RabMAb | KO Validated

## 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** | EPR7466 |
| **Purification technique** | Affinity purification Protein A |
| **Dissociation constant** | 1.34 x $10^{-10}$ M |
| **Concentration** | 1.007 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

**Tested**

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | - |
| **Notes** | Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | - |
| **Notes** | This antibody does not work well in liver tissue in WB application. We suggest ab128856 as an alternative. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | - |
| **Notes** | This antibody does not work well in liver tissue in WB application. We suggest ab128856 as an alternative. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | This antibody does not work well in liver tissue in WB application. We suggest ab128856 as an alternative. |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

# Target data

See full target information FASN

| | |
|---|---|
| **Function** | Fatty acid synthetase is a multifunctional enzyme that catalyzes the de novo biosynthesis of long-chain saturated fatty acids starting from acetyl-CoA and malonyl-CoA in the presence of NADPH. This multifunctional protein contains 7 catalytic activities and a site for the binding of the prosthetic group 4'-phosphopantetheine of the acyl carrier protein ([ACP]) domain. (Microbial infection) Fatty acid synthetase activity is required for SARS coronavirus-2/SARS-CoV-2 replication. |

## 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

ab221934 is the carrier-free version of ab128870.

**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.

# 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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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.

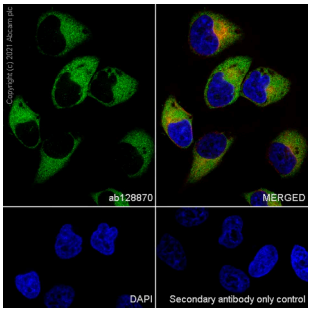
In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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## 10 product images

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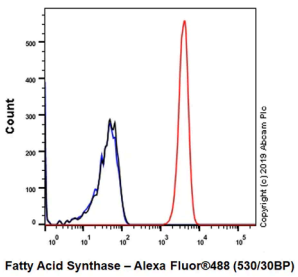



### Immunocytochemistry/ Immunofluorescence - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Fatty Acid Synthase antibody

Immunocytochemistry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Fatty Acid Synthase with Purified ab128870 at 1:50 dilution (10 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using ab128870, the same antibody clone in a different buffer formulation.

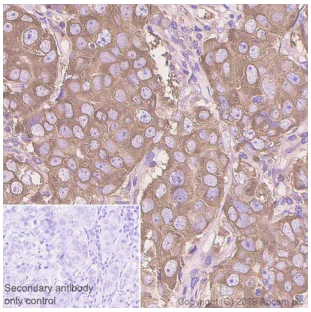
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## Flow Cytometry (Intracellular) - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Flow Cytometry (Intracellular) staining using rabbit Anti-Fatty Acid Synthase antibody

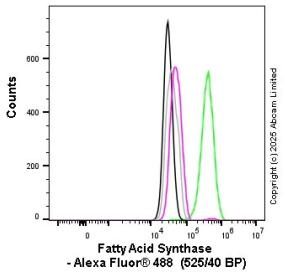
Flow Cytometry analysis of A549 (Human lung carcinoma epithelial cell) cells labelling Fatty Acid Synthase with Purified ab128870 at 1:50 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1:2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabelled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using ab128870, the same antibody clone in a different buffer formulation.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Fatty Acid Synthase antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast cancer tissue sections labeling Fatty Acid Synthase with Purified ab128870 at 1:450 dilution (1.09 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
This data was developed using ab128870, the same antibody clone in a different buffer formulation.




## Flow Cytometry (Intracellular) - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Flow Cytometry (Intracellular) staining using rabbit Anti-Fatty Acid Synthase antibody

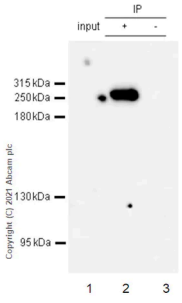
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab128870).
Flow cytometry overlay histogram showing wild-type HAP1 (green line) and FASN knockout HAP1 stained with ab128870 (magenta line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab128870) (1x $10^6$ in 100µl at 0.008 µg/ml (1/69250 dilution)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 dilution for 30min at 22°C.

Isotype control antibody was Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control in HAP1 WT cells (black line) and HAP1-FASN KO cells (grey line), used at the same concentration and conditions as the primary antibody.

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

This antibody gave a positive signal in wild-type HAP1 fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.

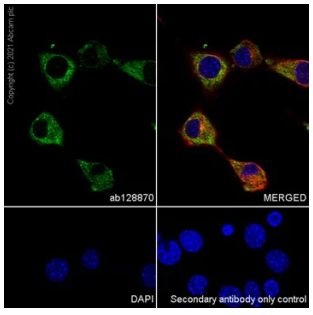



## Immunoprecipitation - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Purified ab128870 at 1:30 dilution (2µg) immunoprecipitating Fatty Acid Synthase in HEK-293 whole cell lysate.
Lane 1 (input): HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate 10 µg
Lane 2 (+): ab221934 + HEK-293 whole cell lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab128870 in HEK-293 whole cell lysate.
VeriBlot for IP Detection Reagent (HRP)(ab131366) (1:10,000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: kDa
This data was developed using ab128870, the same antibody clone in a different buffer formulation.

All lanes:
Immunoprecipitation - Anti-Fatty Acid Synthase antibody [EPR7466] (ab128870)

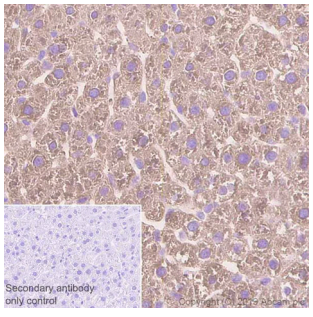
Predicted band size: 273 kDa




## Immunocytochemistry/ Immunofluorescence - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

This data was developed using ab128870, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast) cells labelling with ab128870 at 1/50 dilution, followed by ab150081 antibody at 1/1000 dilution (Green). Confocal image showing cytoplasmic staining in NIH/3T3 cells is observed. ab195889 was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

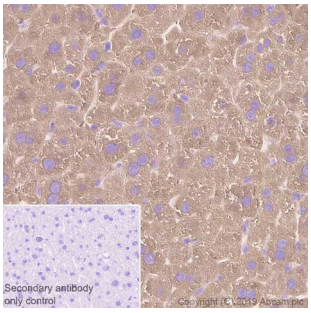
Secondary antibody only control: Secondary antibody is ab150081 at 1/1000 dilution.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Fatty Acid Synthase antibody

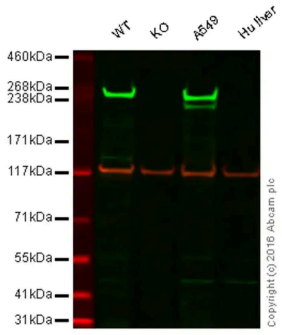
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat liver tissue sections labeling Fatty Acid Synthase with Purified ab128870 at 1:450 dilution (1.09 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
This data was developed using ab128870, the same antibody clone in a different buffer formulation.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Fatty Acid Synthase antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse liver tissue sections labeling Fatty Acid Synthase with Purified ab128870 at 1:450 dilution (1.09 µg/ml). Heat mediated antigen retrieval was performed using Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0) . Tissue was counterstained with Hematoxylin. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) secondary antibody was used. PBS instead of the primary antibody was used as the negative control.
This data was developed using ab128870, the same antibody clone in a different buffer formulation.




## Western blot - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

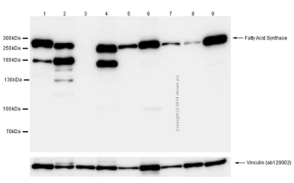
Fatty Acid Synthase Western blot staining using rabbit Anti-Fatty Acid Synthase antibody

**Lane 1:** Wild-type HAP1 cell lysate (20 µg)
**Lane 2:** Fatty Acid Synthase knockout HAP1 cell lysate (20 µg)
**Lane 3:** A549 cell lysate (20 µg)
**Lane 4:** Hu liver tissue lysate (20 µg)
**Lanes 1 - 4:** Merged signal (red and green). Green - ab128870 observed at 250 kDa. Red - loading control, ab18058, observed at 124 kDa.
ab128870 was shown to react with Fatty Acid Synthase in wild-type HAP1 cells along with additional cross reactive bands. No band was observed when Fatty Acid Synthase knockout samples were examined. Wild-type and Fatty Acid Synthase knockout samples were subjected to SDS-PAGE. ab128870 and ab18058 (loading control to Vinculin) were both diluted at 1/10,000 and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.

This image was produced using ab128870, the same clone but in a different formulation.

All lanes:
Western blot - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Predicted band size: 273 kDa



## Western blot - Anti-Fatty Acid Synthase antibody [EPR7466] - BSA and Azide free (ab221934)

Fatty Acid Synthase Western blot staining using rabbit Anti-Fatty Acid Synthase antibody

This data was developed using ab128870, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Fatty Acid Synthase antibody [EPR7466] (ab128870) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
A549 (Human lung carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
Mouse liver lysate at 20 µg

Lane 4:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate at 20 µg

Lane 5:
Mouse brain lysate at 20 µg

Lane 6:
L6 (Rat skeletal muscle myoblast) whole cell lysate at 20 µg

Lane 7:
Rat brain lysate at 20 µg

Lane 8:
Rat liver lysate at 20 µg

Lane 9:
HEK-293 (Human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 273 kDa

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