

# Product Datasheet

## ACAT1 Antibody - BSA Free

### NBP1-89285

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

[www.novusbio.com](http://www.novusbio.com)



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**NBP1-89285**

ACAT1 Antibody - BSA Free

Product Information	
<b>Unit Size</b>	0.1 ml
<b>Concentration</b>	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
<b>Storage</b>	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
<b>Clonality</b>	Polyclonal
<b>Preservative</b>	0.02% Sodium Azide
<b>Isotype</b>	IgG
<b>Purity</b>	Affinity purified
<b>Buffer</b>	PBS (pH 7.2) and 40% Glycerol

Product Description	
<b>Description</b>	Novus Biologicals Knockout (KO) Validated Rabbit ACAT1 Antibody - BSA Free (NBP1-89285) is a polyclonal antibody validated for use in IHC, WB and ICC/IF. Anti-ACAT1 Antibody: Cited in 5 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
<b>Host</b>	Rabbit
<b>Gene ID</b>	38
<b>Gene Symbol</b>	ACAT1
<b>Species</b>	Human, Mouse, Rat
<b>Immunogen</b>	This antibody was developed against Recombinant Protein corresponding to amino acids: VSATRTPIGSFLGSLSLLPATKLGSAIQGAIEKAGIPKEEVKEAYMGNVLQGGEGQAPTRQAVLGAGLPISTPCTTINKVCASGMKAIMMASQSLMCGHQDVMVAGGMESMSNVPYVMNRGSTPYGGVKLEDLIVKDGLTD

Product Application Details	
<b>Applications</b>	Western Blot, Immunohistochemistry-Paraffin, Immunocytochemistry/Immunofluorescence, Immunohistochemistry, Knockdown Validated, Knockout Validated
<b>Recommended Dilutions</b>	Western Blot 0.04-0.4 ug/ml, Immunohistochemistry 1:200 - 1:500, Immunocytochemistry/ Immunofluorescence 0.25-2 ug/ml, Immunohistochemistry-Paraffin 1:200 - 1:500, Knockout Validated, Knockdown Validated
<b>Application Notes</b>	For IHC-Paraffin, HIER pH 6 retrieval is recommended. ICC/IF Fixation Permeabilization: Use PFA/Triton X-100.

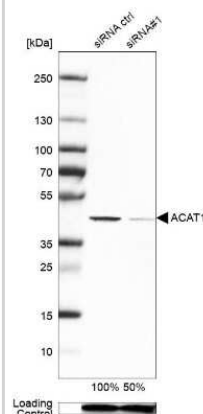


## Images

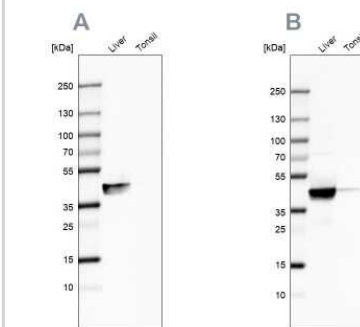
Immunohistochemistry-Paraffin: ACAT1 Antibody [NBP1-89285] - Staining of human cerebellum, kidney, liver and testis using Anti-ACAT1 antibody NBP1-89285 (A) shows similar protein distribution across tissues to independent antibody NBP1-89284 (B).



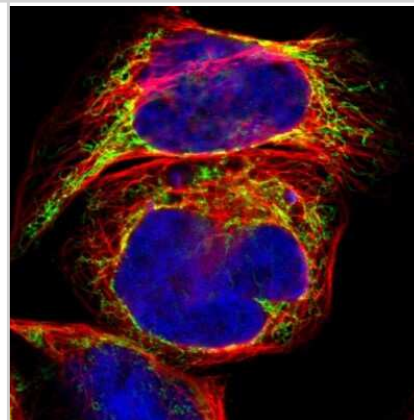
Western Blot: ACAT1 Antibody [NBP1-89285] - Analysis in Caco-2 cells transfected with control siRNA, target specific siRNA probe #1, using Anti-ACAT1 antibody. Remaining relative intensity is presented. Loading control: Anti-PPIB.



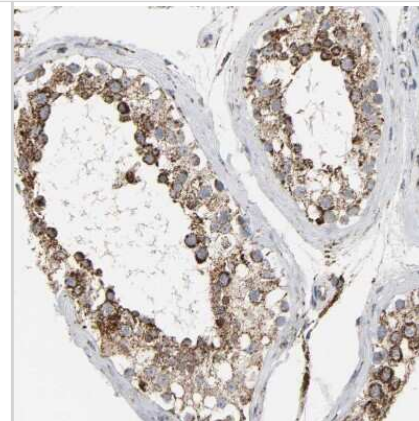
Western Blot: ACAT1 Antibody [NBP1-89285] - Analysis using Anti-ACAT1 antibody NBP1-89285 (A) shows similar pattern to independent antibody NBP1-89284 (B).



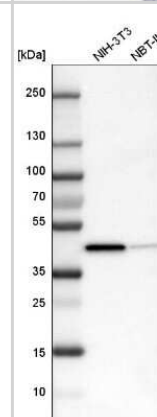
Immunocytochemistry/Immunofluorescence: ACAT1 Antibody [NBP1-89285] - Staining of human cell line A-431 shows localization to mitochondria. Antibody staining is shown in green.



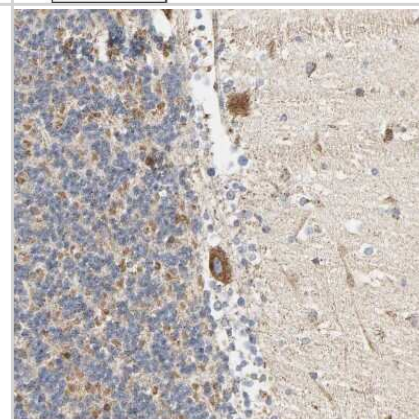
Immunohistochemistry-Paraffin: ACAT1 Antibody [NBP1-89285] - Staining of human testis shows strong positivity in mitochondria in cells in seminiferous ducts.



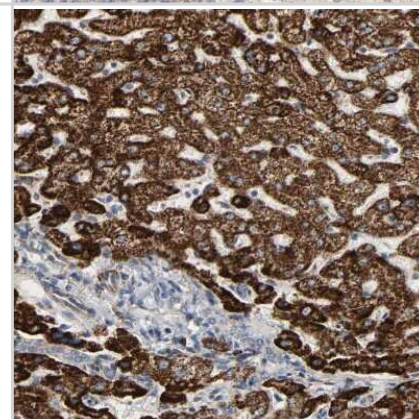
Western Blot: ACAT1 Antibody [NBP1-89285] - Analysis in mouse cell line NIH-3T3 and rat cell line NBT-II.



Immunohistochemistry-Paraffin: ACAT1 Antibody [NBP1-89285] - Staining of human cerebellum shows strong positivity in mitochondria in purkinje cells.



Immunohistochemistry-Paraffin: ACAT1 Antibody [NBP1-89285] - Staining of human liver shows strong positivity in mitochondria in hepatocytes.

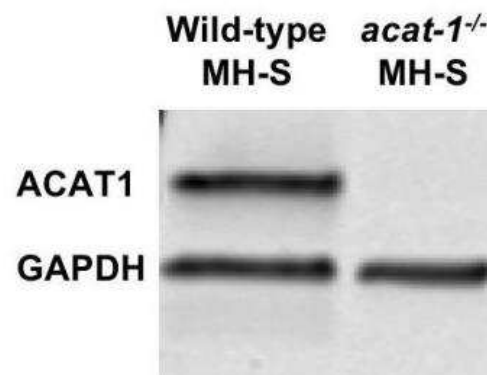


Immunohistochemistry-Paraffin: ACAT1 Antibody [NBP1-89285] - Staining of human kidney shows strong positivity in mitochondria in cells in tubules.



Western Blot: ACAT1 Antibody [NBP1-89285] - ACAT1 protein expression in wild-type and *acat-1*<sup>-/-</sup> macrophages. Cell lysates were immunoblotted and ACAT1 protein levels were compared with GAPDH as loading control. CRISPR/Cas-9 used to knockout *acat-1*. Image collected and cropped by CiteAb from the following publication ([//pubmed.ncbi.nlm.nih.gov/29390006/](https://pubmed.ncbi.nlm.nih.gov/29390006/)) licensed under a CC-BY license.

F.



Western Blot: ACAT1 Antibody [NBP1-89285] - Blocking LD formation increases *C. burnetii* growth. Wild-type *C. burnetii* growth in infected MH-S cells treated with different inhibitors was measured at 2 & 4 days post-infection by FFU assay. A-D) Representative images for wild-type MH-S macrophages treated with inhibitors, fixed, stained for PLIN2 (LDs; green) & *C. burnetii* (red) & imaged day 4 post-treatment at 100X. Scale bar = 10  $\mu$ m. E) Growth while inhibiting LD formation with triacsin C (10  $\mu$ M) in wild-type MH-S macrophages. Error bars represent the mean of 4 independent experiments  $\pm$  SEM. \*\* =  $p < 0.01$  compared to vehicle-treated cells as determined by two-way ANOVA with Bonferroni post-hoc test. F) ACAT1 protein expression in wild-type & *acat-1*<sup>-/-</sup> macrophages. Cell lysates were immunoblotted & ACAT1 protein levels were compared with GAPDH as loading control. G) *C. burnetii* growth in vehicle-treated wild-type & *acat-1*<sup>-/-</sup> MH-S macrophages & (H) T863-treated *acat-1*<sup>-/-</sup> MH-S macrophages. Error bars represent the mean of at least 3 independent experiments  $\pm$  SEM., \* =  $p < 0.05$ , \*\*\* =  $p < 0.001$  as determined by two-way ANOVA with Bonferroni post-hoc test. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0192215>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Janikiewicz J, Dobosz AM, Majzner K et al. Stearoyl-CoA desaturase 1 deficiency exacerbates palmitate-induced lipotoxicity by the formation of small lipid droplets in pancreatic  $\beta$ -cells *Biochimica et biophysica acta. Molecular basis of disease* 2023-04-11 [PMID: 37054998]

### Details:

Tested with INS-1E cells

Mulye M, Zapata B, Gilk SD et al. Altering lipid droplet homeostasis affects *Coxiella burnetii* intracellular growth *PLoS One*. 2018-01-31 [PMID: 29390006] (WB, Mouse)

Saadane A, Mast N, Dao T et al. Retinal hypercholesterolemia triggers cholesterol accumulation and esterification in photoreceptor cells. *J. Biol. Chem.* 2016-08-11 [PMID: 27514747] (WB, IF/IHC, Mouse)

Sanchez-Alvarez R, Martinez-Outschoorn UE, Lin Z et al. Ethanol exposure induces the cancer-associated fibroblast phenotype and lethal tumor metabolism: Implications for breast cancer prevention. *Cell Cycle* 2013-01-15 [PMID: 23257780]

Stadler C, Hjelmare M, Neumann B et al. Systematic validation of antibody binding and protein subcellular localization using siRNA and confocal microscopy. *J Proteomics* 2012-04-03 [PMID: 22361696]





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### **Products Related to NBP1-89285**

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NBP1-89285PEP	ACAT1 Recombinant Protein Antigen
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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[www.novusbio.com/publications](http://www.novusbio.com/publications)

