

**THEM2 Antibody**  
Catalog # ASC10940**Specification****THEM2 Antibody - Product Information**

Application	WB, IHC, IF
Primary Accession	<a href="#">O9NPJ3</a>
Other Accession	<a href="#">NP_060943</a> , <a href="#">8923812</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	THEM2 antibody can be used for detection of THEM2 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.

**THEM2 Antibody - Additional Information**

Gene ID	55856
Target/Specificity	
ACOT13;	

**Reconstitution & Storage**

THEM2 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

THEM2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**THEM2 Antibody - Protein Information**

Name ACOT13 ([HGNC:20999](#))

Synonyms THEM2

**Function**

Catalyzes the hydrolysis of acyl-CoAs into free fatty acids and coenzyme A (CoASH), regulating their respective intracellular levels (PubMed:<a href="http://www.uniprot.org/citations/16934754" target="\_blank">16934754</a>, PubMed:<a href="http://www.uniprot.org/citations/19170545" target="\_blank">19170545</a>). Has acyl-CoA thioesterase activity towards medium (C12) and long-chain (C18) fatty acyl-CoA substrates (By similarity) (PubMed:<a href="http://www.uniprot.org/citations/16934754" target="\_blank">16934754</a>, PubMed:<a href="http://www.uniprot.org/citations/19170545" target="\_blank">19170545</a>). Can also hydrolyze 3-hydroxyphenylacetyl-CoA and 3,4-dihydroxyphenylacetyl-CoA (in vitro) (By similarity)

(PubMed:<a href="http://www.uniprot.org/citations/16934754" target="\_blank">16934754</a>, PubMed:<a href="http://www.uniprot.org/citations/19170545" target="\_blank">19170545</a>). May play a role in controlling adaptive thermogenesis (By similarity).

#### Cellular Location

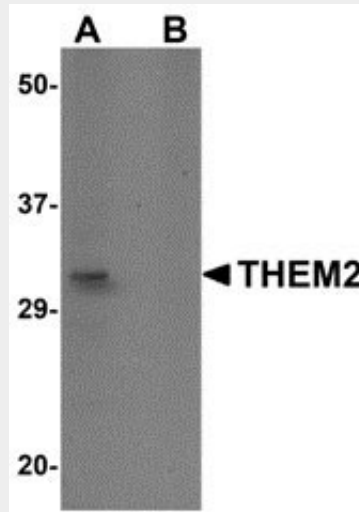
Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9CQR4}. Mitochondrion {ECO:0000250|UniProtKB:Q9CQR4}. Nucleus {ECO:0000250|UniProtKB:Q9CQR4} Cytoplasm, cytoskeleton, spindle {ECO:0000250|UniProtKB:Q9CQR4} Note=During interphase, found both in the nucleus and in the cytoplasm At mitosis, localizes to the spindle. Colocalizes with tubulin {ECO:0000250|UniProtKB:Q9CQR4}

#### THEM2 Antibody - Protocols

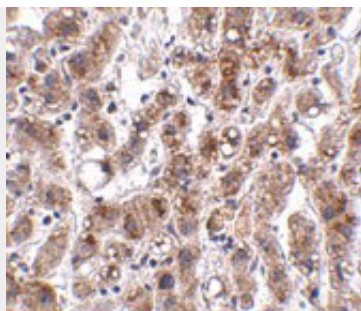
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

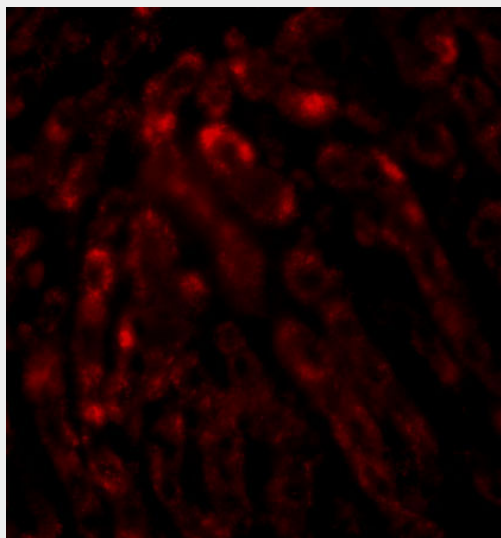
#### THEM2 Antibody - Images



Western blot analysis of THEM2 in HepG2 cell lysate with THEM2 antibody at 1  $\mu$ g/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of THEM2 in human liver tissue with THEM2 antibody at 2.5 µg/mL.



Immunofluorescence of THEM2 in human liver tissue with THEM2 antibody at 20 µg/mL.

### **THEM2 Antibody - Background**

**THEM2 Antibody:** THEM2, also known as ACOT13, belongs to the hotdog-fold superfamily and possesses thioesterase activity, with greater activity observed with longer chain acyl-CoAs such as myristoyl- and palmitoyl-CoA. THEM2 is highly expressed in several tissues such as heart, kidney, liver and brain and has been shown to be co-localized with beta-tubulin on microtubules. THEM2 interacts with StarD, a protein that plays a key role in fatty acid metabolism, and the addition of StarD to THEM2 increased its catalytic activity, suggesting that THEM2 plays a significant role in the metabolism of fatty acids. At least two isoforms of THEM2 are known to exist.

### **THEM2 Antibody - References**

- Cheng Z, Song F, Shan X, et al. Crystal structure of human thioesterase superfamily member 2. *Biochem. Biophys. Res. Commun.*2006; 349:172-7.
- Wei J, Kang HW, and Cohen DE. Thioesterase superfamily member 2 (Them2)/acyl-CoA thioesterase 13 (Acot13): a homotetrameric hotdog fold thioesterase with selectivity for long-chain fatty acyl-CoAs. *Biochem. J.*2009; 421:311-22.
- Cheng Z, Bao S, Shan X, et al. Human thioesterase superfamily member 2 (hTHEM2) is co-localized with beta-tubulin onto the microtubule. *Biochem. Biophys. Res. Commun.*2006; 350:850-3.
- Scappa EF, Pocai A, Wu MK, et al. Regulation of energy substrate utilization and hepatic insulin sensitivity by phosphatidylcholine transfer protein/StarD. *FASEB J.*2008; 22:2579-90.