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THEM2 Antibody

Catalog # ASC10940

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9NPJ3
Other Accession	NP_060943, 8923812
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	14960
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	THEM2 antibody can be used for detection of THEM2 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	55856
Other Names	Acyl-coenzyme A thioesterase 13, Acyl-CoA thioesterase 13, 3.1.2.-, Thioesterase superfamily member 2, Acyl-coenzyme A thioesterase 13, N-terminally processed, ACOT13, THEM2
Target/Specificity	ACOT13;
Reconstitution & Storage	THEM2 antibody can be stored at 4℃ for three months and -20℃, 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.

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:16934754, PubMed:19170545). Has acyl-CoA thioesterase activity towards medium (C12) and long-chain (C18) fatty acyl-CoA substrates (By similarity) (PubMed:16934754, PubMed:19170545). Can also hydrolyze 3-hydroxyphenylacetyl-CoA and 3,4-dihydroxyphenylacetyl-CoA (in vitro) (By

	similarity) (PubMed:16934754, PubMed:19170545). 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}

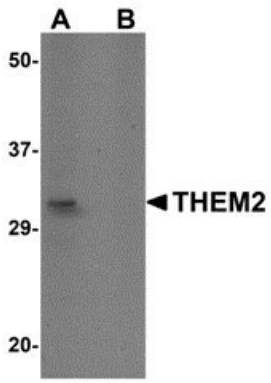
Background

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.

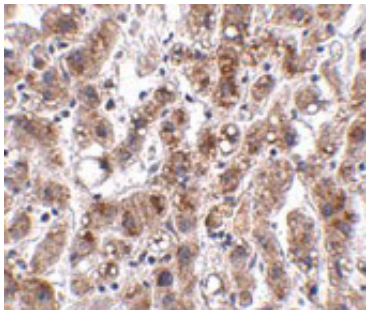
References

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.

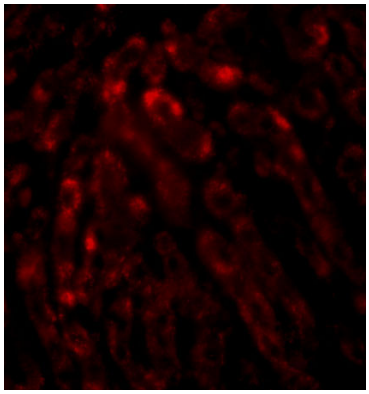
Images



Western blot analysis of THEM2 in HepG2 cell lysate with THEM2 antibody at 1 µg/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.

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