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THEM4 Antibody
Catalog # ASC10927

Specification

THEM4 Antibody - Product Information

Application	**WB, IHC-P, IF, E**
Primary Accession	Q5T1C6
Other Accession	NP_444283, 76159293
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Application Notes	**THEM4 antibody can be used for detection of THEM4 by Western blot at 1 - 2 µg/mL. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.**

THEM4 Antibody - Additional Information

Gene ID **117145**

Target/Specificity
THEM4; The additional higher molecular weight bands seen in the immunoblot may represent post-translationally modified TMEM4.

Reconstitution & Storage
THEM4 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
THEM4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

THEM4 Antibody - Protein Information

Name THEM4

Synonyms CTMP

Function
Has acyl-CoA thioesterase activity towards medium and long- chain (C14 to C18) fatty acyl-CoA substrates, and probably plays a role in mitochondrial fatty acid metabolism. Plays a role in the apoptotic process, possibly via its regulation of AKT1 activity. According to PubMed:11598301, inhibits AKT1 phosphorylation and activity. According to PubMed:17615157, enhances AKT1 activity by favoring its phosphorylation and translocation to plasma membrane.

Cellular Location
Cell membrane. Cell projection, ruffle membrane. Cytoplasm. Mitochondrion. Mitochondrion inner membrane; Peripheral membrane protein. Mitochondrion intermembrane space. Note=Released from the mitochondria into the cytosol in response to apoptotic stimuli

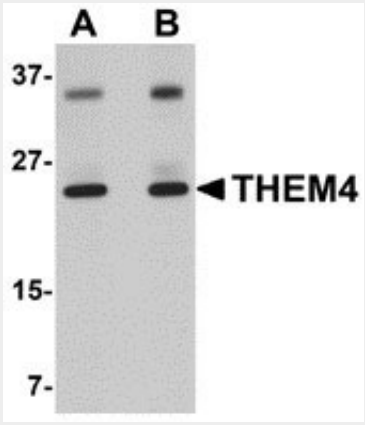
Tissue Location
Expressed predominantly in skeletal muscle, testis, uterus, brain and kidney. Down-regulated in glioblastoma or glioma compared to non-neoplastic brain due to promoter hypermethylation

THEM4 Antibody - Protocols

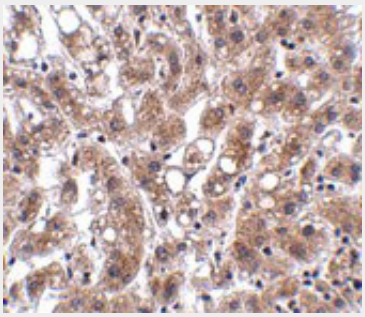
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

THEM4 Antibody - Images



Western blot analysis of THEM4 in human liver tissue lysate with THEM4 antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of THEM4 in human liver tissue with THEM4 antibody at 2.5 µg/mL.

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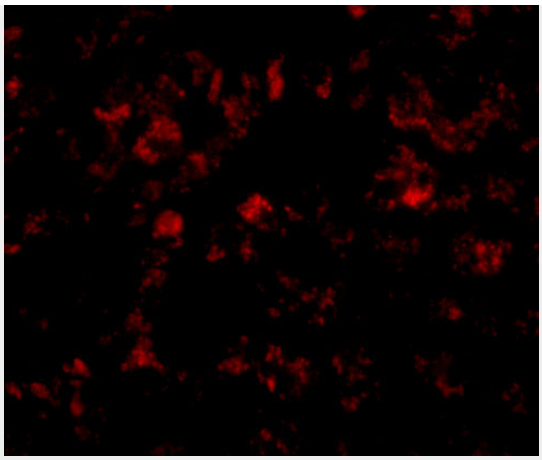

Immunofluorescence of THEM4 in human liver tissue with THEM4 antibody at 20 µg/mL.

THEM4 Antibody - Background

THEM4 Antibody: THEM4, also known as CTMP, binds specifically to the carboxy-terminal regulatory domain of PKB/Akt at the plasma membrane and acts as a negative regulator, reversing the phenotype of v-Akt-transformed cells. Hypermethylation of the THEM4 promoter and transcriptional downregulation of the gene has been reported in multiple glioblastomas, suggesting that epigenetic regulation of THEM4 may play a role in the progression of this cancer. Bioinformatic analysis, confirmed by in vitro testing, indicates that THEM4 is a broad-range, high activity acyl-CoA thioesterase. Recent reports have also indicated that TMEM4 is a mitochondrial protein whose overexpression is associated with an increase in mitochondrial membrane depolarization and caspase-3 and PARP cleavage, suggesting that THEM4 is involved in the apoptotic program.

THEM4 Antibody - References

Maira SM, Galetic I, Brazil DP, et al. Carboxyl-terminal modulator protein (CTMP), a negative regulator of PKB/Akt and v-Akt at the plasma membrane. Science2001; 294:374-80.
Knobbe CB, Reifberger J, Blaschke B, et al. Hypermethylation and transcriptional downregulation of the carboxyl-terminal modulator protein gene in glioblastomas. J. Natl. Cancer Inst.2004; 96:483-6.
Zhao H, Martin BM, Bisoffi M, et al. The Akt C-terminal modulator protein is an acyl-CoA thioesterase of the hotdog-fold family. Biochemistry2009; 48:5507-9.
Parcellier A, Tintignac LA, Zhuravleva E, et al. Carboxy-terminal modulator protein (CTMP) is a mitochondrial protein that sensitizes cells to apoptosis. Cell Signal.2009; 21:639-50.