

THEM2 (E-15): sc-169593



The Power to Question

BACKGROUND

Esterases comprise a superfamily of hydrolase enzymes that use water to catalyze the dissociation of an ester into an acid and an alcohol. The thioesterases, a subfamily of esterase proteins, exhibit thiol-specific esterase activity. THEM2 (thioesterase superfamily member 2), also known as HT012 or PNAS-27, is a 140 amino acid protein that belongs to the thioesterase subfamily of esterase enzymes. Highly expressed in kidney with moderate expression in brain, liver and intestines, THEM2 contains a hotdog-fold and is thought to co-localize with microtubules, possibly playing a role in cellular proliferation events. The gene encoding THEM2 maps to chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

- Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. *Nature* 425: 805-811.
- Lucas, B., et al. 2005. HNF-4 α reduces proliferation of kidney cells and affects genes deregulated in renal cell carcinoma. *Oncogene* 24: 6418-6431.
- Cheng, Z., et al. 2006. Crystal structure of human thioesterase superfamily member 2. *Biochem. Biophys. Res. Commun.* 349: 172-177.
- Cheng, Z., et al. 2006. Human thioesterase superfamily member 2 (hTHEM2) is co-localized with β Tubulin onto the microtubule. *Biochem. Biophys. Res. Commun.* 350: 850-853.
- Kanno, K., et al. 2007. Interacting proteins dictate function of the minimal START domain phosphatidylcholine transfer protein/StARD2. *J. Biol. Chem.* 282: 30728-30736.
- Grigo, K., et al. 2008. HNF4- α orchestrates a set of 14 genes to down-regulate cell proliferation in kidney cells. *Biol. Chem.* 389: 179-187.

CHROMOSOMAL LOCATION

Genetic locus: ACOT13 (human) mapping to 6p22.3.

SOURCE

THEM2 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of THEM2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169593 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

THEM2 (E-15) is recommended for detection of THEM2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with THEM5.

Suitable for use as control antibody for THEM2 siRNA (h): sc-95646, THEM2 shRNA Plasmid (h): sc-95646-SH and THEM2 shRNA (h) Lentiviral Particles: sc-95646-V.

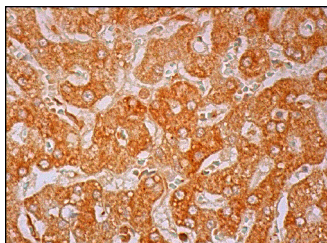
Molecular Weight of THEM2: 15 kDa.

Positive Controls: SK-BR-3 cell lysate: sc-2218, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



THEM2 (E-15): sc-169593. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.