

ERG25 (N-16): sc-242625

BACKGROUND

Belonging to the sterol desaturase family, ERG25, also known as C-4 methylsterol oxidase or Methylsterol monooxygenase, is a 293 amino acid enzyme that performs the first of 3 enzymatic steps required to remove the 2 methyl groups leading to cholesterol. ERG25 is a multi-pass membrane protein that resides within the plasma membrane and the membrane of the endoplasmic reticulum. Concentrations of ERG25 mRNA increase when subjected to low iron growth conditions, suggesting that the enzyme is not regulated by iron but by an end product of the ergosterol pathway. Low-density lipoprotein (LDL) downregulates ERG25 expression in the vascular wall, an event that may be inhibited via SREBP overexpression. ERG25 is encoded by a gene located on human chromosome 4q32.3.

REFERENCES

- Li, L. and Kaplan, J. 1996. Characterization of yeast methyl sterol oxidase (ERG25) and identification of a human homologue. *J. Biol. Chem.* 271: 16927-16933.
- Bard, M., et al. 1996. Cloning and characterization of ERG25, the *Saccharomyces cerevisiae* gene encoding C-4 sterol methyl oxidase. *Proc. Natl. Acad. Sci. USA* 93: 186-190.
- Gachotte, D., et al. 1997. A yeast sterol auxotroph (ERG25) is rescued by addition of azole antifungals and reduced levels of heme. *Proc. Natl. Acad. Sci. USA* 94: 11173-11178.
- Kennedy, M.A., et al. 2000. Cloning and sequencing of the *Candida albicans* C-4 sterol methyl oxidase gene (ERG25) and expression of an ERG25 conditional lethal mutation in *Saccharomyces cerevisiae*. *Lipids* 35: 257-262.
- Rodriguez, C., et al. 2003. Modulation of ERG25 expression by LDL in vascular cells. *Cardiovasc. Res.* 58: 178-185.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607545. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: SC4MOL (human) mapping to 4q32.3; Sc4mol (mouse) mapping to 8 B3.1.

SOURCE

ERG25 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ERG25 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-242625 P, (100 µg 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

ERG25 (N-16) is recommended for detection of ERG25 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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 other ERG family members.

ERG25 (N-16) is also recommended for detection of ERG25 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ERG25 siRNA (h): sc-88916, ERG25 siRNA (m): sc-144926, ERG25 shRNA Plasmid (h): sc-88916-SH, ERG25 shRNA Plasmid (m): sc-144926-SH, ERG25 shRNA (h) Lentiviral Particles: sc-88916-V and ERG25 shRNA (m) Lentiviral Particles: sc-144926-V.

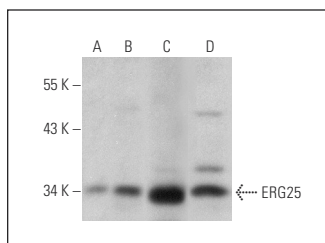
Molecular Weight of ERG25: 34/75 kDa.

Positive Controls: human liver extract: sc-363766, U266 whole cell lysate: sc-364800 or ERG25 (h): 293T Lysate: sc-174675.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ERG25 (N-16): sc-242625. Western blot analysis of ERG25 expression in non-transfected 293T: sc-117752 (A), human ERG25 transfected 293T: sc-174675 (B), human liver (C) and U266 (D) whole cell lysates.

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.