SANTA CRUZ BIOTECHNOLOGY, INC.

INSIG-2 (H-40): sc-66936

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

INSIG-1 and INSIG-2 play distinct roles in a negative-feedback mechanism for cholesterol synthesis. INSIG-1 localizes to the endoplasmic reticulum (ER) and binds the sterol-sensing domain of SREBP cleavage-activating protein (SCAP). Sterol induces INSIG-1 binding to SCAP. INSIG-2, another ER protein, binds SCAP in a sterol-regulated manner. Thus, INSIG-1 and INSIG-2 block the export of SCAP from the ER and ultimately inhibit cholesterol synthesis by preventing the proteolytic processing of SREBPs by Golgi enzymes. The critical role of INSIG-1 and INSIG-2 in cholesterol metabolism may be exploited as a therapeutic effect for hypercholesterolemia.

REFERENCES

1. Peng, Y., et al. 1997. Cloning, human chromosomal assignment and adipose and hepatic expression of the CL-6/INSIG-1 gene. Genomics 43: 278-284.
2. Janowski, B.A., et al. 2002. The hypocholesterolemic agent LY295427 upregulates INSIG-1, identifying the INSIG-1 protein as a mediator of cholesterol homeostasis through SREBP. Proc. Natl. Acad. Sci. USA 99: 12675-12680.
3. Yabe, D., et al. 2002. INSIG-2, a second endoplasmic reticulum protein that binds SCAP and blocks export of sterol regulatory element-binding proteins. Proc. Natl. Acad. Sci. USA 99: 12753-12758.
4. Yabe, D., et al. 2002. Three mutations in sterol-sensing domain of SCAP block interaction with INSIG and render SREBP cleavage insensitive to sterols. Proc. Natl. Acad. Sci. USA 99: 16672-16677.
5. Yang, T., et al. 2002. Crucial step in cholesterol homeostasis: sterols promote binding of SCAP to INSIG-1, a membrane protein that facilitates retention of SREBPs in ER. Cell 110: 489-500.

CHROMOSOMAL LOCATION

Genetic locus: INSIG2 (human) mapping to 2q14.2; Insig2 (mouse) mapping to 1 E2.3.

SOURCE

INSIG-2 (H-40) is a rabbit polyclonal antibody raised against amino acids 1-40 mapping at the N-terminus of INSIG-2 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.

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.

APPLICATIONS

INSIG-2 (H-40) is recommended for detection of INSIG-2 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), 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).

INSIG-2 (H-40) is also recommended for detection of INSIG-2 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for INSIG-2 siRNA (h): sc-45781, INSIG-2 siRNA (m): sc-45782, INSIG-2 shRNA Plasmid (h): sc-45781-SH, INSIG-2 shRNA Plasmid (m): sc-45782-SH, INSIG-2 shRNA (h) Lentiviral Particles: sc-45781-V and INSIG-2 shRNA (m) Lentiviral Particles: sc-45782-V.

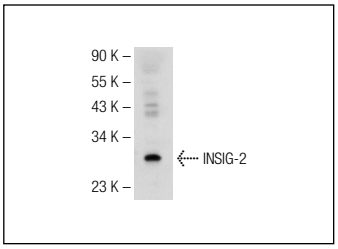
Molecular Weight of INSIG-2: 25 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, mouse liver extract: sc-2256 or rat liver extract: sc-2395.

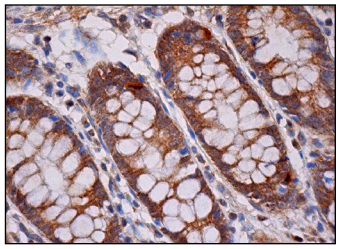
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



INSIG-2 (H-40): sc-66936. Western blot analysis of INSIG-2 expression in Hep G2 whole cell lysate.



INSIG-2 (H-40): sc-66936. Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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