SANTA CRUZ BIOTECHNOLOGY, INC.

INSIG-2 (A-12): sc-34821

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.

CHROMOSOMAL LOCATION

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

SOURCE

INSIG-2 (A-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of INSIG-2 of rat 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-34821 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

INSIG-2 (A-12) 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), 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 (A-12) is also recommended for detection of INSIG-2 in additional species, including equine.

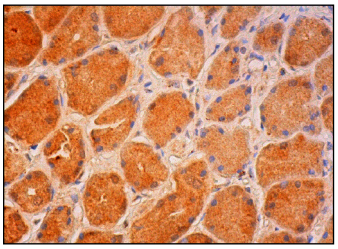
Suitable for use as control antibody for INSIG-2 siRNA (h): sc-45781, INSIG-2 siRNA (m): sc-45782, INSIG-2 shRNA Plasmid (h): sc-45781-SH, INSIG-2 shRNA Plasmid (m): sc-45782-SH, INSIG-2 shRNA (h) Lentiviral Particles: sc-45781-V and INSIG-2 shRNA (m) Lentiviral Particles: sc-45782-V.

Molecular Weight of INSIG-2: 25 kDa.

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



INSIG-2 (A-12): sc-34821. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. De Marinis, E., et al. 2008. Sex differences in hepatic regulation of cholesterol homeostasis. J. Endocrinol. 198: 635-643.
2. Yellaturu, C.R., et al. 2009. Insulin enhances the biogenesis of nuclear sterol regulatory element-binding protein (SREBP)-1c by posttranscriptional down-regulation of Insig-2A and its dissociation from SREBP cleavage-activating protein (SCAP).SREBP-1c complex. J. Biol. Chem. 284: 31726-31734.
3. Trapani, L., et al. 2010. Hypercholesterolemia and 3-hydroxy-3-methylglutaryl coenzyme A reductase regulation in aged female rats. Exp. Gerontol. 45: 119-128.
4. Trapani, L., et al. 2011. Short- and long-term regulation of 3-hydroxy 3-methylglutaryl coenzyme A reductase by a 4-methylcoumarin. Biochimie 93: 1165-1171.

STORAGE

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

RESEARCH USE

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