SANTA CRUZ BIOTECHNOLOGY, INC.

Spot 14 (L-16): sc-66657

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Spot 14, also known as S14 or THRSP (thyroid hormone responsive protein), is a small acidic protein localizing to the nucleus and can be found in tissues that synthesize triglycerides, such as liver, mammary glands and adipose tissues. Spot 14 is implicated in growth and differentiation, possibly functioning as a transcription regulator for genes encoding proteins that participate in lipogenesis. A variety of lipogenic stimuli can activate the expression of Spot 14, including thyroid hormone, dietary carbohydrate, Insulin and glucose. Its expression can be downregulated by catecholamine and glucagon. In addition, Spot 14 expression is known to oscillate with the circadian clock. Knockdown of Spot 14 leads to impaired lipid synthesis and apoptosis. In most breast cancers, Spot 14 is overexpressed and is believed to augment cell growth and survival.

REFERENCES

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2. Cunningham, B.A., Moncur, J.T., Huntington, J.T. and Kinlaw, W.B. 1998. "Spot 14" protein: a metabolic integrator in normal and neoplastic cells. Thyroid 8: 815-825.
3. Moncur, J.T., Park, J.P., Memoli, V.A., Mohandas, T.K. and Kinlaw, W.B. 1998. The "Spot 14" gene resides on the telomeric end of the 11q13 amplicon and is expressed in lipogenic breast cancers: implications for control of tumor metabolism. Proc. Natl. Acad. Sci. USA 95: 6989-6994.
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5. Sanchez-Rodriguez, J., Kaninda-Tshilumbu, J.P., Santos, A. and Perez-Castillo, A. 2005. The Spot 14 protein inhibits growth and induces differentiation and cell death of human MCF7 breast cancer cells. Biochem. J. 390: 57-65.
6. Kinlaw, W.B., Quinn, J.L., Wells, W.A., Roser-Jones, C. and Moncur, J.T. 2006. Spot 14: A marker of aggressive breast cancer and a potential therapeutic target. Endocrinology 147: 4048-4055.

CHROMOSOMAL LOCATION

Genetic locus: THRSP (human) mapping to 11q13.5.

SOURCE

Spot 14 (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Spot 14 of human origin.

STORAGE

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

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-66657 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Spot 14 (L-16) is recommended for detection of Spot 14 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Spot 14 siRNA (h): sc-63058, Spot 14 shRNA Plasmid (h): sc-63058-SH and Spot 14 shRNA (h) Lentiviral Particles: sc-63058-V.

Molecular Weight of Spot 14: 17 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.

RESEARCH USE

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

PROTOCOLS

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