

Spot 14 (B-6): sc-390939

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. Knock-down 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

1. Grillasca, J.P., et al. 1997. Cloning and initial characterization of human and mouse Spot 14 genes. *FEBS Lett.* 401: 38-42.
2. Cunningham, B.A., et al. 1998. "Spot 14" protein: a metabolic integrator in normal and neoplastic cells. *Thyroid* 8: 815-825.
3. Moncur, J.T., et al. 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.
4. Compe, E., et al. 2001. Spot 14 protein interacts and cooperates with chicken ovalbumin upstream promoter-transcription factor 1 in the transcription of the L-type pyruvate kinase gene through a specificity protein 1 (Sp1) binding site. *Biochem. J.* 358: 175-183.
5. Sanchez-Rodriguez, J., et al. 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., et al. 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 11q14.1; Thrsp (mouse) mapping to 7 E1.

SOURCE

Spot 14 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 30-57 within an internal region of Spot 14 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390939 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Spot 14 (B-6) is recommended for detection of Spot 14 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Spot 14 siRNA (h): sc-63058, Spot 14 siRNA (m): sc-63059, Spot 14 shRNA Plasmid (h): sc-63058-SH, Spot 14 shRNA Plasmid (m): sc-63059-SH, Spot 14 shRNA (h) Lentiviral Particles: sc-63058-V and Spot 14 shRNA (m) Lentiviral Particles: sc-63059-V.

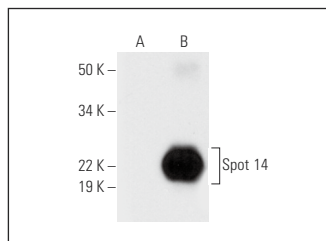
Molecular Weight of Spot 14: 17 kDa.

Positive Controls: Spot 14 (m2): 293T Lysate: sc-110387 or Spot 14 (h): 293T Lysate: sc-113757.

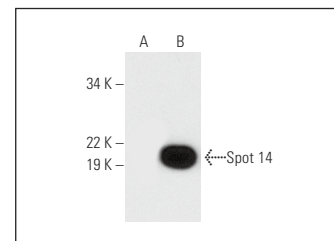
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Spot 14 (B-6): sc-390939. Western blot analysis of Spot 14 expression in non-transfected: sc-117752 (A) and mouse Spot 14 transfected: sc-110387 (B) 293T whole cell lysates.



Spot 14 (B-6): sc-390939. Western blot analysis of Spot 14 expression in non-transfected: sc-117752 (A) and human Spot 14 transfected: sc-113757 (B) 293T 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.

RESEARCH USE

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

PROTOCOLS

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