

# Spot 14 (H-57): sc-67299

## 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

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.

## CHROMOSOMAL LOCATION

Genetic locus: THRSP (human) mapping to 11q14.1; Thrsp (mouse) mapping to 7 E1.

## SOURCE

Spot 14 (H-57) is a rabbit polyclonal antibody raised against amino acids 90-146 mapping at the C-terminus of Spot 14 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.

## APPLICATIONS

Spot 14 (H-57) is recommended for detection of Spot 14 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).

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.

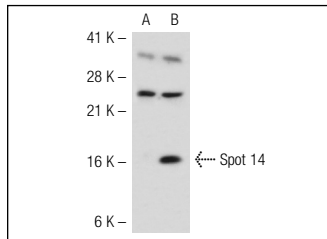
Molecular Weight of Spot 14: 17 kDa.

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

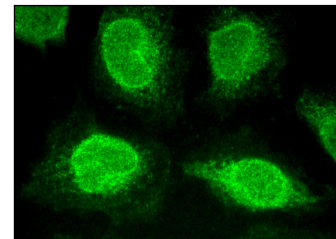
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



Spot 14 (H-57): sc-67299. 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.



Spot 14 (H-57): sc-67299. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Ortega, F.J., et al. 2010. Thyroid hormone responsive Spot 14 increases during differentiation of human adipocytes and its expression is down-regulated in obese subjects. *Int. J. Obes.* 34: 487-499.
2. Rudolph, M.C., et al. 2010. Sterol regulatory element binding protein and dietary lipid regulation of fatty acid synthesis in the mammary epithelium. *Am. J. Physiol. Endocrinol. Metab.* 299: E918-E927.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Spot 14 (F-7): sc-137178** or **Spot 14 (B-6): sc-390939**, our highly recommended monoclonal alternatives to Spot 14 (H-57).