

# RSP3 (S-13): sc-137737

## BACKGROUND

RSP3 (radial spoke protein 3), also known as RSHL2 (radial spoke head-like protein 2) or RSPH3, is a 560 amino acid protein that belongs to the flagellar radial spoke RSP3 family. Existing as two alternatively spliced isoforms, RSP3 functions as a protein kinase A-anchoring protein and is one of many structural components of motile cilia. The gene encoding RSP3 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES

1. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. *Hum. Mol. Genet.* 3: 1561-1564.
2. Gaillard, A.R., et al. 2001. Flagellar radial spoke protein 3 is an A-kinase anchoring protein (AKAP). *J. Cell Biol.* 153: 443-448.
3. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. *Proc. Natl. Acad. Sci. USA* 100: 5956-5961.
4. Koukoulas, I., et al. 2004. Genomic organisation and nervous system expression of radial spoke protein 3. *Gene* 336: 15-23.
5. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. *Genes Chromosomes Cancer* 47: 159-164.
6. Jivan, A., et al. 2009. Radial spoke protein 3 is a mammalian protein kinase A-anchoring protein that binds ERK1/2. *J. Biol. Chem.* 284: 29437-29445.
7. Jalil, S., et al. 2010. Associations among behavior-related susceptibility factors in porphyria cutanea tarda. *Clin. Gastroenterol. Hepatol.* 8: 297-302.

## CHROMOSOMAL LOCATION

Genetic locus: RSPH3 (human) mapping to 6q25.3; Rsp3a/Rsph3b (mouse) mapping to 17 A1.

## SOURCE

RSP3 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RSP3 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.

Blocking peptide available for competition studies, sc-137737 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

RSP3 (S-13) is recommended for detection of RSP3 isoforms 1 and 2 of human origin, Rshl2a/b of mouse origin and the corresponding rat homolog 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).

RSP3 (S-13) is also recommended for detection of RSP3 isoforms 1 and 2 in additional species, including avian.

Suitable for use as control antibody for RSP3 siRNA (h): sc-95235, RSP3 shRNA Plasmid (h): sc-95235-SH and RSP3 shRNA (h) Lentiviral Particles: sc-95235-V.

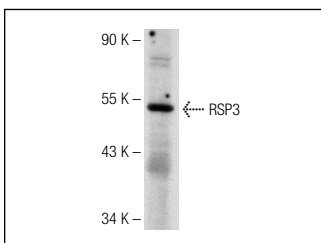
Molecular Weight of RSP3 isoforms: 64/53 kDa.

Positive Controls: mouse liver extract: sc-2256 or human liver extract: sc-363766.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



RSP3 (S-13): sc-137737. Western blot analysis of RSP3 expression in mouse liver tissue extract.

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