

PCOTH (G-18): sc-84570

BACKGROUND

PCOTH (Prostate collagen triple helix protein) is a 107 amino acid cytoplasmic protein that is specifically expressed in prostate and testis. PCOTH may play a significant role in the proliferation and viability of prostate cancers by way of phosphorylating the oncoprotein I2PP2A. Knockdown of PCOTH mRNA results in the drastic reduction of prostate cancer cell growth and viability, whereas addition of PCOTH results in enhanced cancer cell growth. Interestingly, prostate cancer cells that overexpressed PCOTH had significantly increased levels of phosphorylated I2PP2A and Calregulin. I2PP2A has a variety of functions such as involvement in regulating cell cycle transition and acting as an inhibitor of PP2A. Calregulin plays an important role in the modulation of gene transcription. Therefore, the inhibition of PCOTH modulation may be a potential treatment approach for prostate cancer.

REFERENCES

1. Nagata, K., et al. 1998. Cellular localization and expression of template-activating factor I in different cell types. *Exp. Cell Res.* 240: 274-281.
2. Saito, S., et al. 1999. Functional domains of template-activating factor-I as a protein phosphatase 2A inhibitor. *Biochem. Biophys. Res. Commun.* 259: 471-475.
3. Ashida, S., et al. 2004. Molecular features of the transition from prostatic intraepithelial neoplasia (PIN) to prostate cancer: genome-wide gene-expression profiles of prostate cancers and PINs. *Cancer Res.* 64: 5963-5972.
4. Anazawa, Y., et al. 2005. PCOTH, a novel gene overexpressed in prostate cancers, promotes prostate cancer cell growth through phosphorylation of oncoprotein TAF-I β /SET. *Cancer Res.* 65: 4578-4586.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 600960. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Karetsov, Z., et al. 2009. Identification of distinct SET/TAF-I β domains required for core histone binding and quantitative characterisation of the interaction. *BMC Biochem.* 10: 10.
7. Brawley, O.W., et al. 2009. Screening for Prostate Cancer. *CA Cancer J Clin.* 59: 264-273
8. Szabo, E., et al. 2009. Cell adhesion and spreading affect adipogenesis from ES cells: The Role of Calreticulin. *Stem Cells* 27: 2092-2102

CHROMOSOMAL LOCATION

Genetic locus: PCOTH (human) mapping to 13q12.12.

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 or our catalog for detailed protocols and support products.

SOURCE

PCOTH (G-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of PCOTH of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84570 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PCOTH (G-18) is recommended for detection of PCOTH 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 PCOTH siRNA (h): sc-76090, PCOTH shRNA Plasmid (h): sc-76090-SH and PCOTH shRNA (h) Lentiviral Particles: sc-76090-V.

Molecular Weight of PCOTH: 11 kDa.

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) 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.

RESEARCH USE

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