

PCIF1 (m): 293T Lysate: sc-127304

BACKGROUND

PCIF1 (phosphorylated CTD-interacting factor 1), also known as C20orf67, is a 704 amino acid nuclear protein that contains one WW domain. Expressed throughout the body, PCIF1 is thought to play a role in transcription elongation and may be involved in coupling transcription to pre-mRNA processing, specifically by interacting with the phosphorylated carboxy-terminal domain (CTD) of Pol II. Additionally, PCIF1 interacts with and inhibits the activity of PDX-1 (pancreatic and duodenal homeobox-1), thereby regulating β cell differentiation and, ultimately, contributing to normal pancreatic development. Via its ability to influence pancreatic organogenesis, PCIF1 may be involved in the pathogenesis of diabetes and may be a potential target for the therapeutic treatment of diabetes.

REFERENCES

1. Kang, M.E. and Dahmus, M.E. 1993. RNA polymerases IIA and IIO have distinct roles during transcription from the TATA-less murine dihydrofolate reductase promoter. *J. Biol. Chem.* 268: 25033-25040.
2. Peshavaria, M., Cissell, M.A., Henderson, E., Petersen, H.V. and Stein, R. 2000. The PDX-1 activation domain provides specific functions necessary for transcriptional stimulation in pancreatic β -cells. *Mol. Endocrinol.* 14: 1907-1917.
3. Emili, A., Shales, M., McCracken, S., Xie, W., Tucker, P.W., Kobayashi, R., Blencowe, B.J. and Ingles, C.J. 2002. Splicing and transcription-associated proteins PSF and p54nrb/nonO bind to the RNA polymerase II CTD. *RNA* 8: 1102-1111.
4. Fan, H., Sakuraba, K., Komuro, A., Kato, S., Harada, F. and Hirose, Y. 2003. PCIF1, a novel human WW domain-containing protein, interacts with the phosphorylated RNA polymerase II. *Biochem. Biophys. Res. Commun.* 301: 378-385.
5. Liu, A., Desai, B.M. and Stoffers, D.A. 2004. Identification of PCIF1, a POZ domain protein that inhibits PDX-1 (MODY4) transcriptional activity. *Mol. Cell. Biol.* 24: 4372-4383.
6. Liu, A., Oliver-Krasinski, J. and Stoffers, D.A. 2006. Two conserved domains in PCIF1 mediate interaction with pancreatic transcription factor PDX-1. *FEBS Lett.* 580: 6701-6706.
7. Hirose, Y. and Ohkuma, Y. 2007. Phosphorylation of the C-terminal domain of RNA polymerase II plays central roles in the integrated events of eucaryotic gene expression. *J. Biochem.* 141: 601-608.
8. Hirose, Y., Iwamoto, Y., Sakuraba, K., Yunokuchi, I., Harada, F. and Ohkuma, Y. 2008. Human phosphorylated CTD-interacting protein, PCIF1, negatively modulates gene expression by RNA polymerase II. *Biochem. Biophys. Res. Commun.* 369: 449-455.

CHROMOSOMAL LOCATION

Genetic locus: *Pcif1* (mouse) mapping to 2 H3.

PRODUCT

PCIF1 (m): 293T Lysate represents a lysate of mouse PCIF1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

PCIF1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PCIF1 antibodies. Recommended use: 10-20 μ l per lane.

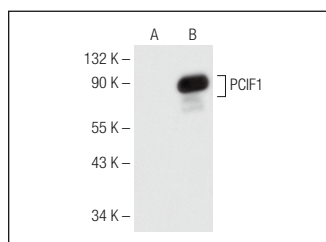
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PCIF1 (A-9): sc-374406 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse PCIF1 expression in PCIF1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



PCIF1 (A-9): sc-374406. Western blot analysis of PCIF1 expression in non-transfected: sc-117752 (A) and mouse PCIF1 transfected: sc-127304 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.