# ZCCHC11 (H-15): sc-103939



The Power to Question

### **BACKGROUND**

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZCCHC11 (zinc finger, CCHC domain containing 11), also known as terminal uridylyltransferase 4 (TUTase 4) or PAPD3, is a 1,644 amino acid nuclear and cytoplasmic protein, mostly located to the nucleus, belonging to the DNA polymerase type-B-like family. Functioning as a uridylyltransferase, ZCCHC11 acts in conjunction with LIN-28 to suppress microRNA biogenesis through pre-microRNA uridylation. ZCCHC11 exists as two alternatively spliced isoforms that are required for stem cell maintenance, cytokine expression and play a role in supressing Toll-like receptor (TLR) induced NF $\kappa$ B activity by binding to T2BP (TRAF-interacting protein with forkhead-associated domain).

### **REFERENCES**

- Keller, W. and Martin, G. 2002. Gene regulation: reviving the message. Nature 419: 267-268.
- 2. Minoda, Y., Saeki, K., Aki, D., Takaki, H., Sanada, T., Koga, K., Kobayashi, T., Takaesu, G. and Yoshimura, A. 2006. A novel zinc finger protein, ZCCHC11, interacts with TIFA and modulates TLR signaling. Biochem. Biophys. Res. Commun. 344: 1023-1030.
- 3. Mullen, T.E. and Marzluff, W.F. 2008. Degradation of histone mRNA requires oligouridylation followed by decapping and simultaneous degradation of the mRNA both 5' to 3' and 3' to 5'. Genes Dev. 22: 50-65.
- Heo, I., Joo, C., Cho, J., Ha, M., Han, J. and Kim, V.N. 2008. LIN-28 mediates the terminal uridylation of let-7 precursor MicroRNA. Mol. Cell 32: 276-284.4
- Heo, I., Joo, C., Kim, Y.K., Ha, M., Yoon, M.J., Cho, J., Yeom, K.H., Han, J. and Kim, V.N. 2009. TUT4 in concert with LIN-28 suppresses microRNA biogenesis through pre-microRNA uridylation. Cell 138: 696-708.
- Jones, M.R., Quinton, L.J., Blahna, M.T., Neilson, J.R., Fu, S., Ivanov, A.R., Wolf, D.A. and Mizgerd, J.P. 2009. ZCCHC11-dependent uridylation of microRNA directs cytokine expression. Nat. Cell Biol. 11: 1157-1163.
- Hagan, J.P., Piskounova, E. and Gregory, R.I. 2009. LIN-28 recruits the TUTase ZCCHC11 to inhibit let-7 maturation in mouse embryonic stem cells. Nat. Struct. Mol. Biol. 16: 1021-1025.

## **CHROMOSOMAL LOCATION**

Genetic locus: Zcchc11 (rat) mapping to 5q35.

#### SOURCE

ZCCHC11 (H-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ZCCHC11 of rat origin.

## **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.

#### **PRODUCT**

Each vial contains 200  $\mu g$  IgG in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103939 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### **APPLICATIONS**

ZCCHC11 (H-15) is recommended for detection of ZCCHC11 of rat 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).

Molecular Weight of ZCCHC11: 200 kDa.

### **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) 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.

## **PROTOCOLS**

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

**Santa Cruz Biotechnology, Inc.** 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**