

Pontin 52 (2943C1a): sc-81360

BACKGROUND

Pontin 52 is nuclear matrix protein that is primarily expressed in the nucleus and is also present in the cytoplasm. Pontin 52 is expressed in the nucleoplasm of whole cells, but is not present in the nucleoli. Pontin 52 is also designated RUVBL1, for *E. coli* RuvB-like 1 protein, or NMP 238, and is the human homolog of rat TIP49. Pontin 52 contains an ATPase/helicase motif and may represent a class of cofactors recruited by transcriptional activation domains that function in diverse pathways. For instance, *in vivo*, Pontin 52 is complexed with Myc and Reptin 52, which is a Pontin 52 related protein also designated RUVBL2. The interaction of Pontin 52 with Myc is dependent upon a Myc domain essential for oncogenic activity, suggesting that functional Pontin 52 is an essential mediator of Myc oncogenic transformation. The gene encoding human Pontin 52 maps to chromosome 3q21.3.

REFERENCES

1. Bauer, A., et al. 1998. Pontin 52, an interaction partner of β -catenin, binds to the TATA box-binding protein. *Proc. Natl. Acad. Sci. USA* 95: 14787-14792.
2. Makino, Y., et al. 1998. TIP49, homologous to the bacterial DNA helicase RuvB, acts as an autoantigen in human. *Biochem. Biophys. Res. Commun.* 245: 819-823.
3. Holzmann, K., et al. 1998. Identification and characterization of the ubiquitously occurring nuclear matrix protein NMP 238. *Biochem. Biophys. Res. Commun.* 252: 39-45.
4. Qiu, X.B., et al. 1998. An eukaryotic RuvB-like protein (RuvBL1) essential for growth. *J. Biol. Chem.* 273: 27786-27793.
5. Lim, C.R., et al. 2000. The *Saccharomyces cerevisiae* RuvB-like protein, Tih2p, is required for cell cycle progression and RNA polymerase II-directed transcription. *J. Biol. Chem.* 275: 22409-22417.
6. Wood, M.A., et al. 2000. An ATPase/helicase complex is an essential cofactor for oncogenic transformation by c-Myc. *Mol. Cell* 5: 321-330.
7. Carlson, M.L., et al. 2003. Regulation of COX-2 transcription in a colon cancer cell line by Pontin52/TIP49a. *Mol. Cancer* 2: 42.

CHROMOSOMAL LOCATION

Genetic locus: RUVBL1 (human) mapping to 3q21.3; Ruvbl1 (mouse) mapping to 6 D1.

SOURCE

Pontin 52 (2943C1a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of Pontin 52 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

RESEARCH USE

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

APPLICATIONS

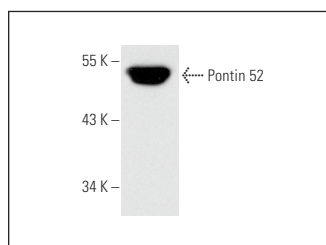
Pontin 52 (2943C1a) is recommended for detection of Pontin 52 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

Suitable for use as control antibody for Pontin 52 siRNA (h): sc-43543, Pontin 52 siRNA (m): sc-60010, Pontin 52 shRNA Plasmid (h): sc-43543-SH, Pontin 52 shRNA Plasmid (m): sc-60010-SH, Pontin 52 shRNA (h) Lentiviral Particles: sc-43543-V and Pontin 52 shRNA (m) Lentiviral Particles: sc-60010-V.

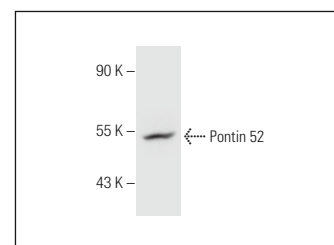
Molecular Weight of Pontin 52: 50 kDa.

Positive Controls: SK-BR-3 nuclear extract: sc-2134, SK-BR-3 cell lysate: sc-2218 or K-562 nuclear extract: sc-2130.

DATA



Pontin 52 (2943C1a): sc-81360. Western blot analysis of Pontin 52 expression in K-562 nuclear extract.



Pontin 52 (2943C1a): sc-81360. Western blot analysis of Pontin 52 expression in SK-BR-3 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Tarangelo, A., et al. 2015. Recruitment of pontin/reptin by E2f1 amplifies E2f transcriptional response during cancer progression. *Nat. Commun.* 6: 10028.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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