

# ENC1 (SS-9): sc-100318

## BACKGROUND

Proteolytic degradation by the ubiquitin (Ub) system is essential for normal cell cycle progression, cellular differentiation and stress responses. The E3 ubiquitin-protein ligase complex uses a substrate-specific adapter, ENC1 (ectoderm-neural cortex protein 1), to mediate ubiquitination. ENC1, also known as NRPB or PIG10, is a 589 amino acid Actin-binding protein that is involved in differentiation of neural crest cells and regulation of neuronal process formation. ENC1 is localized to the nuclear matrix and is highly expressed in adult brain and spinal cord tissues. Expression of ENC1 is up-regulated during neuronal differentiation. ENC1 may be regulated by the  $\beta$ -catenin/TCF pathway and is thought to play a role in histogenesis. ENC1 interacts with hypophosphorylated Rb (Retinoblastoma-associated protein) to form a complex that contains CUL-3, Rbx1 and ENC1 which is essential for neuronal cell differentiation. ENC1 contains one BTB (POZ) domain and six Kelch repeats. The BTB domain is thought to be necessary for the protein-protein interactions involved in cytoskeletal organization and the Kelch repeats denote a conserved tertiary structure. ENC1 is highly expressed in brain tumors, suggesting a possible role in carcinogenesis.

## REFERENCES

1. Polyak, K., et al. 1997. A model for p53-induced apoptosis. *Nature* 389: 300-305.
2. Hernandez, M.C., et al. 1998. Cloning of human ENC1 and evaluation of its expression and regulation in nervous system tumors. *Exp. Cell Res.* 242: 470-477.
3. Kim, T.A., et al. 1998. NRP/B, a novel nuclear matrix protein, associates with p110(RB) and is involved in neuronal differentiation. *J. Cell Biol.* 141: 553-566.
4. Hernandez, M.C., et al. 1999. Assignment of the ectodermal-neural cortex 1 gene (ENC1) to human chromosome band 5q13 by *in situ* hybridization. *Cytogenet. Cell Genet.* 87: 89-90.
5. Hernandez, M., et al. 2000. Assignment of the ectodermal-neural cortex 1 gene (Enc1) to mouse chromosome band 13D1 by fluorescence *in situ* hybridization. *Cytogenet. Cell Genet.* 89: 158-159.
6. Fujita, M., et al. 2001. Upregulation of the ectodermal-neural cortex 1 (ENC1) gene, a downstream target of the  $\beta$ -catenin/T cell factor complex, in colorectal carcinomas. *Cancer Res.* 61: 7722-7726.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605173. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. Hammarsund, M., et al. 2004. Disruption of a novel ectodermal neural cortex 1 antisense gene, ENC1AS and identification of ENC1 overexpression in hairy cell leukemia. *Hum. Mol. Genet.* 13: 2925-2936.
9. García-Calero, E. and Puelles, L. 2005. Pallial expression of ENC1 RNA in postnatal mouse telencephalon. *Brain Res. Bull.* 66: 445-448.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## CHROMOSOMAL LOCATION

Genetic locus: ENC1 (human) mapping to 5q13.3.

## SOURCE

ENC1 (SS-9) is a mouse monoclonal antibody raised against recombinant ENC1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

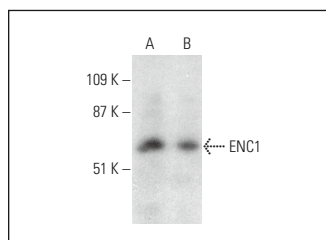
ENC1 (SS-9) is recommended for detection of ENC1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ENC1 siRNA (h): sc-91870, ENC1 shRNA Plasmid (h): sc-91870-SH and ENC1 shRNA (h) Lentiviral Particles: sc-91870-V.

Molecular Weight of ENC1: 66 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or HEK293T whole cell lysate: sc-45137.

## DATA



ENC1 (SS-9): sc-100318. Western blot analysis of ENC1 expression in IMR-32 (A) and HEK293T (B) whole cell lysates.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.