SANTA CRUZ BIOTECHNOLOGY, INC.

ENC1 (7a): sc-517590

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β-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.

CHROMOSOMAL LOCATION

Genetic locus: ENC1 (human) mapping to 5q13.3; Enc1 (mouse) mapping to 13 D1.

SOURCE

ENC1 (7a) is a mouse monoclonal antibody raised against amino acids 413-524 of ENC1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ENC1 (7a) is available conjugated to agarose (sc-517590 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-517590 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

APPLICATIONS

ENC1 (7a) is recommended for detection of ENC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ENC1 siRNA (h): sc-91870, ENC1 siRNA (m): sc-144649, ENC1 shRNA Plasmid (h): sc-91870-SH, ENC1 shRNA Plasmid (m): sc-144649-SH, ENC1 shRNA (h) Lentiviral Particles: sc-91870-V and ENC1 shRNA (m) Lentiviral Particles: sc-144649-V.

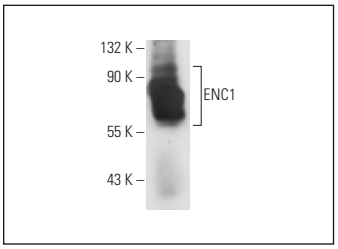
Molecular Weight of ENC1: 66 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

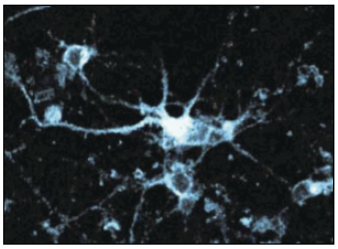
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ENC1 (7A): sc-517590. Western blot analysis of ENC1 expression in IMR-32 whole cell lysate.



ENC1 (7a): sc-517590. Immunofluorescence staining of rat neuron cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhou, Y., et al. 2020. Ectodermal-neural cortex 1 as a novel biomarker predicts poor prognosis and induces metastasis in breast cancer by promoting Wnt/β-catenin pathway. J. Cell. Mol. Med. E-published.

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.