SANTA CRUZ BIOTECHNOLOGY, INC.

ING4 (B-8): sc-515714

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Inhibitor of growth protein (ING) family of nuclear proteins, also designated ING tumor suppressor proteins, inhibit tumor progression by modulating the transcriptional outputs of signaling pathways, which in turn regulates cell proliferation. Members of this family include ING1, ING2, ING3, ING4 and INGX. ING4 localizes to the nucleus and may inhibit tumor progression by adjusting the transcriptional output of signaling pathways which regulate cell proliferation. When complexed with RELA, ING4 can suppress brain tumor angiogenesis through transcriptional repression of RELA/NFKB3 target genes. ING4 interacts with HIF prolyl hydroxylase 2 (EGLN1), which represses the activity of hypoxia inducible factor (HIF).

REFERENCES

1. Shiseki, M., et al. 2003. $p29^{ING4}$ and $p28^{ING5}$ bind to p53 and p300, and enhance p53 activity. Cancer Res. 63: 2373-2378.
2. Zhang, X., et al. 2004. ING4 induces G_2/M cell cycle arrest and enhances the chemosensitivity to DNA-damage agents in Hep G2 cells. FEBS Lett. 570: 7-12.
3. Garkavtsev, I., et al. 2004. The candidate tumour suppressor protein ING4 regulates brain tumour growth and angiogenesis. Nature 428: 328-332.
4. Kim, S., et al. 2004. A screen for genes that suppress loss of contact inhibition of ING4 as a candidate tumor suppressor gene in human cancer. Proc. Natl. Acad. Sci. USA 101: 16251-16256.
5. Gunduz, M., et al. 2005. Frequent deletion and down-regulation of ING4, a candidate tumor suppressor gene at 12p13, in head and neck squamous cell carcinomas. Gene 356: 109-117.
6. Ozer, A., et al. 2005. The candidate tumor suppressor ING4 represses activation of the hypoxia inducible factor (HIF). Proc. Natl. Acad. Sci. USA 102: 7481-7486.
7. Ozer, A., et al. 2005. Regulation of HIF by prolyl hydroxylases: recruitment of the candidate tumor suppressor protein ING4. Cell Cycle 4: 1153-1156.
8. Zhang, X., et al. 2005. Nuclear localization signal of ING4 plays a key role in its binding to p53. Biochem. Biophys. Res. Commun. 331: 1032-1038.

CHROMOSOMAL LOCATION

Genetic locus: ING4 (human) mapping to 12p13.31, ING5 (human) mapping to 2q37.3; Ing4 (mouse) mapping to 6 F2, Ing5 (mouse) mapping to 1 D.

SOURCE

ING4 (B-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 90-109 within an internal region of ING4 of human 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.

RESEARCH USE

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

APPLICATIONS

ING4 (B-8) is recommended for detection of ING4 and ING5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

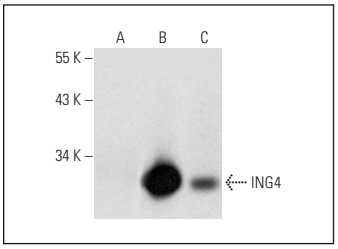
Molecular Weight of ING4: 29 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, ING4 (h): 293T Lysate: sc-111547 or Neuro-2A whole cell lysate: sc-364185.

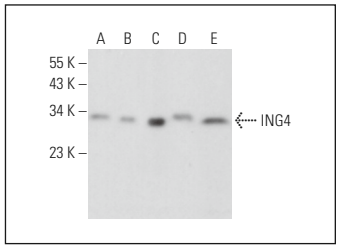
RECOMMENDED SUPPORT REAGENTS

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



ING4 (B-8): sc-515714. Western blot analysis of ING4 expression in non-transfected 293T: sc-117752 (**A**) and human ING4 transfected 293T: sc-111547 (**B**) whole cell lysates and Jurkat nuclear extract (**C**).



ING4 (B-8): sc-515714. Western blot analysis of ING4 expression in Jurkat (**A**), Ramos (**B**) and WEHI-231 (**C**) nuclear extracts and JAR (**D**) and Neuro-2A (**E**) whole cell lysates.

STORAGE

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

PROTOCOLS

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