

# ING4 (E-18): sc-55239

## 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 ING5. 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/NFκB3 target genes. ING4 interacts with HIF prolyl hydroxylase 2 (EGLN1), which represses the activity of hypoxia inducible factor (HIF).

## REFERENCES

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- Zhang, X., et al. 2004. ING4 induces G<sub>2</sub>/M cell cycle arrest and enhances the chemosensitivity to DNA-damage agents in Hep G2 cells. *FEBS Lett.* 570: 7-12.
- Garkavtsev, I., et al. 2004. The candidate tumour suppressor protein ING4 regulates brain tumour growth and angiogenesis. *Nature* 428: 328-332.
- 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.
- 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.
- 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.
- Ozer, A. and Bruick, R.K. 2005. Regulation of HIF by prolyl hydroxylases: recruitment of the candidate tumor suppressor protein ING4. *Cell Cycle* 4: 1153-1156.
- 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 (E-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ING4 of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55239 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ING4 (E-18) is recommended for detection of ING4 and ING5 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)], 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).

ING4 (E-18) is also recommended for detection of ING4 and ING5 in additional species, including equine, canine, bovine and avian.

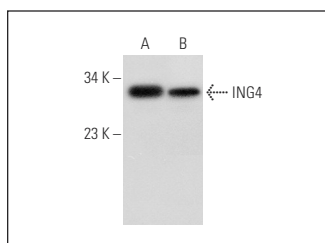
Molecular Weight of ING4: 29 kDa.

Positive Controls: ING4 (m): 293T Lysate: sc-121066, NIH/3T3 nuclear extract: sc-2138 or PC-12 cell lysate: sc-2250.

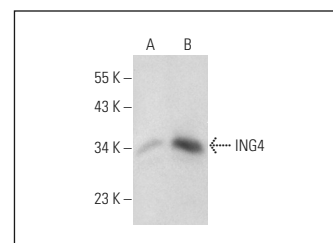
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



ING4 (E-18): sc-55239. Western blot analysis of ING4 expression in NIH/3T3 nuclear extract (A) and PC-12 whole cell lysate (B).



ING4 (E-18): sc-55239. Western blot analysis of ING4 expression in non-transfected: sc-117752 (A) and mouse ING4 transfected: sc-121066 (B) 293T 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) or our catalog for detailed protocols and support products.