SANTA CRUZ BIOTECHNOLOGY, INC.

ING3 (162.1): sc-101245

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

ING3 is a nuclear tumor suppressor protein that has been shown to activate UV-induced apoptosis through a Fas-mediated pathway. It has also exhibited the ability to regulate p53-mediated transcription and apoptosis, likely by acting as an agent of the NuA4 histone acetyltransferase (HAT) complex. Overexpression of ING3 increases the cleavage of apoptosis-related caspases and BID, however, this is done through a pathway that does not involve increasing the expression of mitochondrial proteins. Defects in the gene encoding ING3 lead to a decrease of UV-induced apoptosis and, thus, is believed to greatly affect the prognosis of melanomas and head and neck cancers.

REFERENCES

1. Gunduz, M., et al. 2002. Allelic loss and reduced expression of the ING3, a candidate tumor suppressor gene at 7q31, in human head and neck cancers. Oncogene 21: 4462-4470.
2. Nagashima, M., et al. 2003. A novel PHD-finger motif protein, p47^{ING3}, modulates p53-mediated transcription, cell cycle control, and apoptosis. Oncogene 22: 343-350.
3. Doyon, Y., et al. 2004. Structural and functional conservation of the NuA4 histone acetyltransferase complex from yeast to humans. Mol. Cell. Biol. 24: 1884-1896.
4. Gunduz, M., et al. 2005. Frequent deletion and downregulation of ING4, a candidate tumor suppressor gene at 12p13, in head and neck squamous cell carcinomas. Gene 356: 109-117.
5. Wang, Y. and Li, G. 2006. ING3 promotes UV-induced apoptosis via FAS/caspase-8 pathway in melanoma cells. J. Biol. Chem. 281: 11887-11893.
6. Doyon, Y., et al. 2006. ING tumor suppressor proteins are critical regulators of chromatin acetylation required for genome expression and perpetuation. Mol. Cell 21: 51-64.
7. Wang, Y., et al. 2007. Prognostic significance of nuclear ING3 expression in human cutaneous melanoma. Clin. Cancer Res. 13: 4111-4116.

CHROMOSOMAL LOCATION

Genetic locus: ING3 (human) mapping to 7q31.31; Ing3 (mouse) mapping to 6 A3.1.

SOURCE

ING3 (162.1) is a mouse monoclonal antibody raised against recombinant ING3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

ING3 (162.1) is recommended for detection of ING3 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).

Suitable for use as control antibody for ING3 siRNA (h): sc-62505, ING3 siRNA (m): sc-62506, ING3 shRNA Plasmid (h): sc-62505-SH, ING3 shRNA Plasmid (m): sc-62506-SH, ING3 shRNA (h) Lentiviral Particles: sc-62505-V and ING3 shRNA (m) Lentiviral Particles: sc-62506-V.

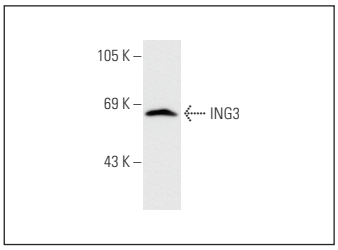
Molecular Weight of ING3: 47 kDa.

Positive Controls: DU 145 nuclear extract: sc-24960 or PC-12 cell lysate: sc-2250.

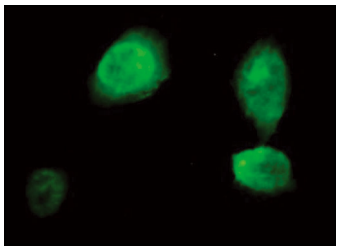
RECOMMENDED SUPPORT REAGENTS

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



ING3 (162.1): sc-101245. Western blot analysis of ING3 expression in DU 145 nuclear extract.



ING3 (162.1): sc-101245. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Suzuki, S., et al. 2013. ING3 is essential for asymmetric cell division during mouse oocyte maturation. PLoS ONE 8: e74749.
2. Barlak, N., et al. 2023. Expression and prognostic value of ING3 in advanced laryngeal squamous cell carcinoma. Eur. Res. J. 9: 517-528.

RESEARCH USE

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