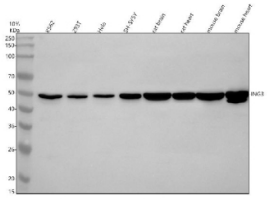
ING3 Antibody / Inhibitor of growth protein 3 (FY12347)

Catalog No.	Formulation	Size
FY12347	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9NXR8
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This ING3 antibody is available for research use only.



Western blot analysis of ING3 using anti-ING3 antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human K562 whole cell lysates, Lane 2: human 293T whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human SH-SY5Y whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat heart tissue lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse heart tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ING3 antibody at 1:1000 overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected molecular weight of ING3 is ~47 kDa.

Description

The ING3 antibody targets Inhibitor of growth protein 3, a member of the inhibitor of growth (ING) family of tumor suppressors that regulate chromatin remodeling and gene transcription. Encoded by the ING3 gene, this nuclear protein

acts as an epigenetic regulator linking histone modification to transcriptional control. Inhibitor of growth protein 3 associates with histone acetyltransferase (HAT) and histone deacetylase (HDAC) complexes to modulate chromatin accessibility and influence gene expression. The ING3 antibody provides a valuable tool for exploring chromatin regulation, apoptosis, and tumor suppression mechanisms mediated by this multifunctional protein.

Inhibitor of growth protein 3 contains a conserved plant homeodomain (PHD) finger that recognizes trimethylated histone H3 at lysine 4 (H3K4me3), a hallmark of transcriptionally active chromatin. By binding to this epigenetic mark, ING3 recruits acetyltransferase complexes such as TIP60 (KAT5), promoting histone acetylation and transcriptional activation of target genes involved in cell cycle arrest, DNA repair, and apoptosis. The ING3 antibody allows direct visualization of protein localization and quantification of expression levels across tissues and cell types, supporting studies of ING3-dependent transcriptional control.

As a tumor suppressor, Inhibitor of growth protein 3 plays a crucial role in preventing malignant transformation. Downregulation or mutation of ING3 has been reported in multiple cancers, including prostate, head and neck, and hepatocellular carcinoma. Loss of expression correlates with reduced apoptosis and enhanced proliferation. Researchers use the ING3 antibody to assess protein expression in cancer specimens and cell models, providing insights into its role in tumorigenesis and epigenetic misregulation. Restoration of ING3 activity has been shown to sensitize cells to apoptosis and DNA-damaging agents, emphasizing its therapeutic relevance.

Beyond tumor suppression, Inhibitor of growth protein 3 contributes to p53-dependent transcription and DNA repair processes. It interacts with the p53 tumor suppressor to enhance transcriptional activation of pro-apoptotic genes such as BAX and PUMA. The ING3 antibody supports studies aimed at mapping these proteinÂ–protein interactions and elucidating pathways linking chromatin remodeling to cellular stress responses. In addition, ING3 has been implicated in developmental regulation and differentiation, suggesting functions beyond its canonical tumor suppressor role.

The ING3 antibody is suitable for use in western blotting, immunohistochemistry, immunofluorescence, and chromatin immunoprecipitation. These assays allow researchers to examine ING3 expression dynamics in response to cellular stimuli or drug treatment. NSJ Bioreagents provides the ING3 antibody with validated specificity and reproducibility, supporting its use across molecular biology and cancer research applications. By enabling detailed examination of chromatin-bound Inhibitor of growth protein 3, this reagent advances understanding of epigenetic regulation, tumor suppression, and DNA damage response mechanisms that preserve genomic integrity.

Application Notes

Optimal dilution of the ING3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human ING3 recombinant protein (Position: M1-Q367) was used as the immunogen for the ING3 antibody.

Storage

After reconstitution, the ING3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.