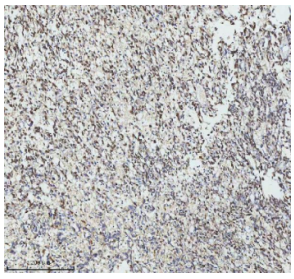
GINS4 Antibody / GINS complex subunit 4 (FY12020)

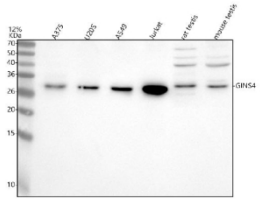
Catalog No.	Formulation	Size
FY12020	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

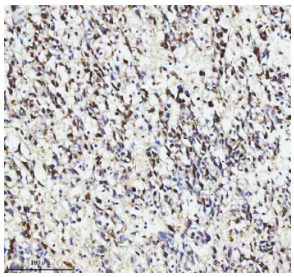
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9BRT9
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This GINS4 antibody is available for research use only.



IHC analysis of GINS4 using anti-GINS4 antibody. GINS4 was detected in a paraffin-embedded section of human melanoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-GINS4 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of GINS4 using anti-GINS4 antibody. Lane 1: human whole cell lysates, Lane 2: human U20S whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human Jurkat whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis 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-GINS4 antibody at 0.5 ug/ml 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 enhanced chemiluminescent. The expected band size for GINS4 is at 26 kDa.



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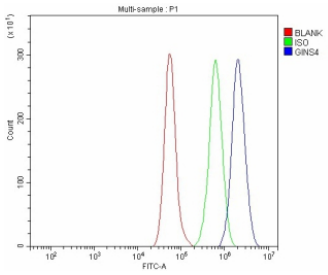

Flow Cytometry analysis of cells using anti-GINS4 antibody. Overlay histogram showing cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-GINS4 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

GINS4 antibody detects GINS complex subunit 4, encoded by the GINS4 gene. GINS complex subunit 4, also known as SLD5, is one of four essential components of the GINS complex, which plays a central role in DNA replication initiation and elongation. GINS4 antibody provides researchers with a specific reagent for studying DNA replication, genome stability, and cell cycle control.

The GINS complex, composed of GINS1, GINS2, GINS3, and GINS4, forms a stable heterotetramer that interacts with CDC45 and the MCM helicase complex to establish the CMG helicase. Research using GINS4 antibody has demonstrated that the CMG helicase is the core replicative helicase in eukaryotic cells, responsible for unwinding DNA during replication. Loss of GINS4 impairs DNA replication fork progression and genome stability, highlighting its indispensable role.

Studies with GINS4 antibody have revealed that GINS4 interacts with multiple replication factors, including MCM proteins, replication protein A, and DNA polymerases. These interactions coordinate helicase activity with DNA synthesis, ensuring high-fidelity replication. Structural studies further confirm that GINS4 stabilizes the complex and supports helicase activity.

Dysregulation of GINS4 is linked to cancer and genomic instability. Research using GINS4 antibody has shown that elevated GINS4 expression is associated with proliferation and poor prognosis in several cancers, including lung and colorectal cancers. By promoting replication efficiency, cancer cells exploit GINS4 to sustain high growth rates. Conversely, depletion of GINS4 induces replication stress and apoptosis, underscoring its therapeutic potential as a replication factor target.

GINS4 antibody is widely applied in western blotting, immunohistochemistry, and immunoprecipitation. Western blotting quantifies protein levels, immunohistochemistry identifies proliferative zones with high replication activity, and immunoprecipitation demonstrates interaction with replication machinery. These approaches make GINS4 antibody invaluable in DNA replication research.

By supplying validated GINS4 antibody reagents, NSJ Bioreagents supports studies into DNA replication, cell cycle regulation, and cancer biology. Detection of GINS complex subunit 4 provides insight into how replication machinery safeguards genome stability.

Application Notes

Optimal dilution of the GINS4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SLD5/GINS4 recombinant protein (Position: M1-I223) was used as the immunogen for the GINS4 antibody.

Storage

After reconstitution, the GINS4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.