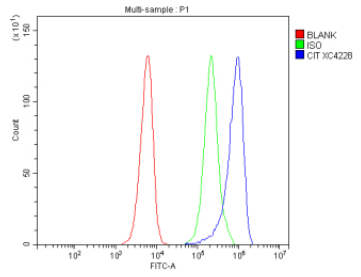
CIT Antibody / Citron Rho-interacting kinase (FY12543)

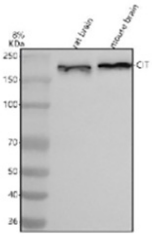
Catalog No.	Formulation	Size
FY12543	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	O14578
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This CIT antibody is available for research use only.



Flow Cytometry analysis of SiHa cells using anti-CIT antibody. Overlay histogram showing SiHa 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-CIT 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.



Western blot analysis of CIT using anti-CIT antibody. Lane 1: rat brain tissue lysates, Lane 2: mouse brain 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-CIT 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. A specific band was detected for CIT at approximately 231 kDa. The expected molecular weight of CIT is ~231 kDa.

Description

CIT antibody detects Citron Rho-interacting kinase, a serine/threonine kinase that regulates cytokinesis and neuronal development. CIT functions downstream of Rho family GTPases to coordinate actomyosin contractility and midbody formation during cell division. The CIT antibody is used in cell cycle, cytoskeletal, and neurodevelopmental research to study contractile ring organization and cytokinetic abscission.

CIT is encoded by the CIT gene located on human chromosome 12q23.1. The protein is approximately 230 kilodaltons and contains an N-terminal kinase domain, a coiled-coil region, a Rho-binding domain, and a C-terminal citron homology region with multiple protein-protein interaction motifs. CIT localizes to the midbody during cytokinesis and to dendritic spines in postmitotic neurons.

The CIT antibody detects the 230 kilodalton protein in western blot analysis and reveals distinct midbody and dendritic staining patterns. CIT acts as a scaffold and kinase that phosphorylates substrates including myosin light chain and actin-regulatory proteins, coordinating contraction during cell division. Depletion of CIT disrupts cleavage furrow ingression and leads to multinucleation due to failed cytokinesis.

In the nervous system, Citron kinase contributes to dendrite formation, axon stability, and synaptic maturation. Mutations in CIT cause microcephaly and neuronal migration disorders due to abnormal mitotic spindle dynamics and impaired cell cycle progression in neural progenitors. CIT also interacts with RhoA and other GTPases, integrating cytoskeletal signaling with cortical actin organization.

CIT is a critical effector of Rho-mediated contractility and has been implicated in cancer cell proliferation and migration. NSJ Bioreagents provides a validated CIT antibody optimized for its applications, enabling detailed studies of cytokinesis, cytoskeletal remodeling, and neurodevelopmental regulation.

Application Notes

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

Immunogen

E.coli-derived human CIT recombinant protein (Position: Q470-H1505) was used as the immunogen for the CIT antibody.

Storage

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