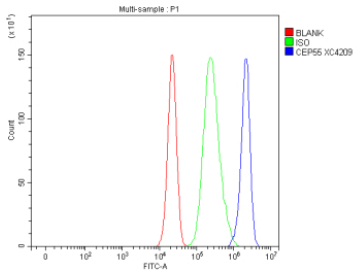
CEP55 Antibody / Centrosomal protein of 55 (FY12483)

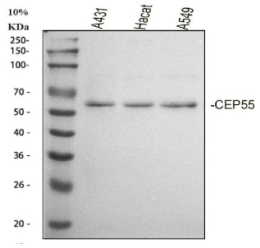
Catalog No.	Formulation	Size
FY12483	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	Q53EZ4
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This CEP55 antibody is available for research use only.



Flow Cytometry analysis of cells using anti-CEP55 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-CEP55 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 CEP55 using anti-CEP55 antibody. Lane 1: human whole cell lysates, Lane 2: human Hacat whole cell lysates, Lane 3: human whole cell 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-CEP55 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 molecular weight of CEP55 is ~54 kDa.

Description

CEP55 antibody recognizes Centrosomal protein of 55 kilodaltons, a key regulator of cytokinesis and abscission during cell division. CEP55 is essential for recruiting the ESCRT (endosomal sorting complex required for transport) machinery that mediates final membrane separation between daughter cells. The CEP55 antibody is widely used in cell cycle and cancer research to study centrosome function, mitotic exit, and cytokinetic regulation.

CEP55 is encoded by the CEP55 gene on human chromosome 10q23.33. The protein localizes to the centrosome and midbody during late mitosis, coordinating the final stages of cytokinesis. Structurally, CEP55 contains coiled-coil domains and a C-terminal ESCRT- and ALIX-binding region that enables its interaction with ESCRT-I component TSG101 and adaptor ALIX (PDCD6IP). These interactions recruit membrane scission complexes to the midbody, ensuring successful separation of daughter cells following chromosomal segregation.

The CEP55 antibody identifies a 55-60 kilodalton protein in western blot analysis, while immunofluorescence reveals strong midbody and centrosomal staining during telophase and cytokinesis. CEP55 overexpression is frequently observed in tumors, including breast, colon, and lung cancers, where it promotes uncontrolled proliferation and genomic instability. As a consequence, CEP55 is considered both a mitotic marker and a potential therapeutic target in oncology. In normal physiology, it functions as a checkpoint component ensuring that abscission only occurs after proper chromosomal segregation and spindle formation.

Functionally, CEP55 is phosphorylated by PLK1 and Aurora B kinases during mitosis, and these phosphorylation events regulate its recruitment timing to the midbody. Disruption of CEP55 impairs ESCRT recruitment, leading to cytokinesis failure and multinucleated cell formation. Beyond cytokinesis, CEP55 contributes to cilia disassembly and may play a role in signal transduction during cell cycle re-entry. NSJ Bioreagents offers a validated CEP55 antibody optimized for western blot and flow cytometry, providing researchers with a reliable reagent to study cell division, centrosome regulation, and cancer cell proliferation.

Application Notes

Optimal dilution of the CEP55 antibody should be determined by the researcher.

Immunogen

E.coli-derived human CEP55 recombinant protein (Position: E115-K464) was used as the immunogen for the CEP55 antibody.

Storage

After reconstitution, the CEP55 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.