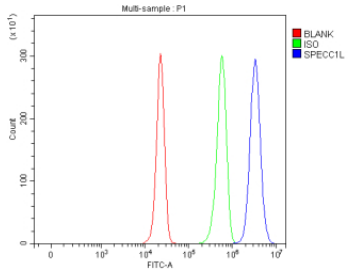
SPECC1L Antibody / Cytospin A (FY12109)

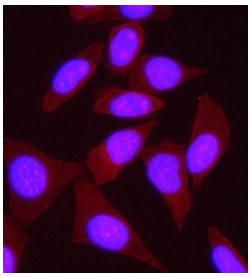
Catalog No.	Formulation	Size
FY12109	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

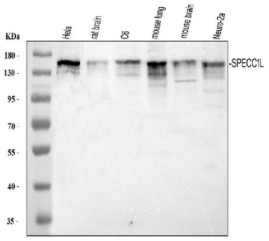
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q69YQ0
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SPECC1L antibody is available for research use only.



Flow Cytometry analysis of HepG2 cells using anti-SPECC1L antibody. Overlay histogram showing HepG2 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-SPECC1L 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.



IF analysis of SPECC1L using anti-SPECC1L antibody (red). SPECC1L was detected in an immunocytochemical section of SiHa cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-SPECC1L antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of SPECC1L using anti-SPECC1L antibody. Lane 1: human Hela whole cell lysates, Lane 2: rat brain tissue lysates, Lane 3: rat C6 whole cell lysates, Lane 4: mouse lung tissue lysates, Lane 5: mouse brain tissue lysates, Lane 6: mouse Neuro-2a 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-SPECC1L 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 SPECC1L is at 125 kDa but can be observed at 145-155 kDa, and sometimes as a doublet, consistent with its coiled-coil composition and phosphorylation.

Description

SPECC1L antibody targets sperm antigen with calponin homology and coiled-coil domains 1-like protein, an important cytoskeletal-associated molecule involved in embryonic development, craniofacial morphogenesis, and cellular architecture. Encoded by the SPECC1L gene located on chromosome 22q11.23, this protein plays a role in actin cytoskeleton dynamics and intercellular adhesion. Through its calponin homology and coiled-coil domains, SPECC1L interacts with microtubules and actin filaments, contributing to structural integrity and tissue organization during embryogenesis.Mutations in the SPECC1L gene have been linked to developmental syndromes such as Opitz G/BBB syndrome, Teebi hypertelorism syndrome, and other craniofacial malformation disorders. These mutations often result in abnormal craniofacial patterning, defects in palate formation, and midline developmental anomalies. In particular, studies have shown that SPECC1L dysfunction disrupts cell adhesion and epithelial sheet movement, processes essential for palate shelf elevation and fusion. Understanding SPECC1L function is therefore critical to developmental biology and congenital anomaly research.Research involving SPECC1L has also uncovered its involvement in neural crest cell migration and craniofacial morphogenesis, with significant implications for both basic and clinical research. Experimental data suggest that SPECC1L contributes to cranial neural crest cell adhesion and migration by stabilizing cytoskeletal structures. Loss of SPECC1L function results in altered actin filament organization and impaired cell polarity, leading to tissue-level defects. These observations make SPECC1L antibody an important tool for assessing protein expression in tissues during key developmental stages and for disease-modeling studies.SPECC1L is expressed in a variety of tissues, with higher levels during embryonic stages. Antibodies against this protein have been employed in immunohistochemistry to detect craniofacial developmental anomalies in experimental models and in western blotting to validate expression levels across different tissues. The antibody enables researchers to track protein localization within cells, providing insights into cytoskeletal remodeling and signaling networks. Because SPECC1L's activity intersects with multiple cytoskeletal regulators, it is of high interest for broader investigations into tissue morphogenesis and human genetic disorders.

Application Notes

Optimal dilution of the SPECC1L antibody should be determined by the researcher.

Immunogen

E.coli-derived human SPECC1L recombinant protein (Position: D177-E959) was used as the immunogen for the

SPECC1L antibody.

Storage

After reconstitution, the SPECC1L antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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