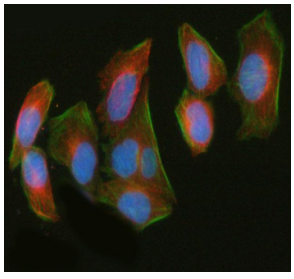
LUZP1 Antibody / Leucine zipper protein 1 (FY12136)

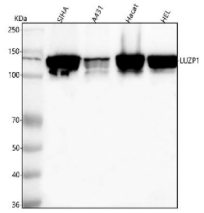
Catalog No.	Formulation	Size
FY12136	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

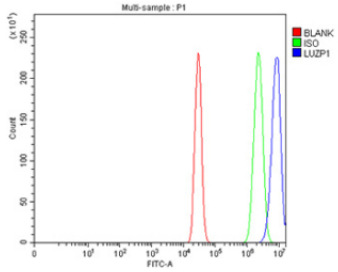
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q86V48
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This LUZP1 antibody is available for research use only.



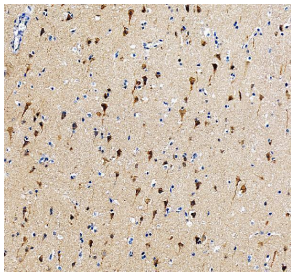
Immunofluorescent staining of LUZP1 using anti-LUZP1 antibody (green) and anti-Beta Tubulin antibody (red). LUZP1 was detected in immunocytochemical section of HELA cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-LUZP1 antibody (green) and mouse anti-Beta Tubulin antibody (red) overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight 550 Conjugated Goat Anti-Mouse IgG were 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 LUZP1 using anti-LUZP1 antibody. Lane 1: human SiHa whole cell lysates, Lane 2: human whole cell lysates, Lane 3: human Hacat whole cell lysates, Lane 4: human HEL 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-LUZP1 antibody at 0.25 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 LUZP1 at approximately 120 kDa. The expected band size for LUZP1 is at 120 kDa.



Flow Cytometry analysis of cells using anti-LUZP1 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-LUZP1 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 (Red line) was also used as a control.



LUZP1 Antibody Human Cerebral Cortex IHC. Immunohistochemical staining of FFPE human cerebral cortex tissue with LUZP1 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. LUZP1 immunoreactivity is observed predominantly within the cytoplasm of cortical neurons and extending into neuronal processes, consistent with the expected localization of this cytoskeletal organization protein involved in actin filament regulation, primary cilium formation, and cellular architecture. Cell nuclei are counterstained with hematoxylin (blue).

Description

LUZP1 antibody detects Leucine zipper protein 1, encoded by the LUZP1 gene on chromosome 1p36.13. LUZP1 antibody is used in studies of this multifunctional nuclear and cytoskeletal protein, which contains leucine zipper motifs that mediate protein-protein interactions and coiled-coil structures. LUZP1 is widely expressed in developing tissues and adult organs, with notable abundance in brain, heart, and skeletal muscle. Its diverse localizations and interaction partners suggest roles in transcriptional regulation, actin cytoskeleton organization, and cell cycle progression.

Structurally, LUZP1 consists of multiple leucine zipper domains, which allow dimerization and interactions with transcription factors and chromatin modifiers. In addition, LUZP1 contains nuclear localization signals and regions that associate with actin filaments, positioning it at the interface of nuclear and cytoskeletal regulation. Its dynamic shuttling between the nucleus and cytoplasm highlights its multifunctionality. Studies suggest LUZP1 is involved in regulating gene transcription by interacting with chromatin remodeling complexes and transcriptional activators.

Functionally, LUZP1 has been linked to embryonic development and neuronal differentiation. Knockdown experiments in zebrafish and mouse models indicate that reduced LUZP1 expression disrupts neural tube closure and brain patterning, consistent with its role in neural crest cell migration. In muscle, LUZP1 influences actin filament organization and may stabilize sarcomere structures. In cancer biology, LUZP1 dysregulation has been reported in glioblastoma, hepatocellular carcinoma, and breast cancer, where it may function as a tumor suppressor by antagonizing proliferative signaling pathways. Researchers use LUZP1 antibody to investigate its contributions to developmental processes and oncogenesis.

Clinically, LUZP1 mutations and altered expression are associated with congenital brain malformations and neurodevelopmental syndromes. Transcriptomic analyses reveal that LUZP1 downregulation is linked to poor prognosis

in some cancers, possibly through disruption of actin cytoskeleton dynamics and transcriptional repression. Recent work suggests LUZP1 modulates Wnt signaling and other pathways important for proliferation and differentiation. The ability of LUZP1 to interact with multiple partners underlines its versatility as a scaffold protein and transcriptional regulator.

Experimentally, LUZP1 antibody is applied in western blotting to detect the ~110 kDa protein, in immunofluorescence to highlight nuclear and cytoskeletal localization, and in immunohistochemistry to evaluate expression in tumor tissues. Co-immunoprecipitation with LUZP1 antibody has identified binding partners including transcriptional co-repressors and actin-regulatory proteins. These findings point to its dual role in gene regulation and cytoskeletal remodeling. NSJ Bioreagents provides LUZP1 antibody to support researchers in developmental biology, neuroscience, and cancer biology, ensuring high-quality detection of this leucine zipper protein.

Learn more about proteins involved in cytoskeletal organization, cell architecture and intracellular signaling on our Cell Biology Antibodies page.

Application Notes

Optimal dilution of the LUZP1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human LUZP1 recombinant protein (Position: K604-H1040) was used as the immunogen for the LUZP1 antibody.

Storage

After reconstitution, the LUZP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.