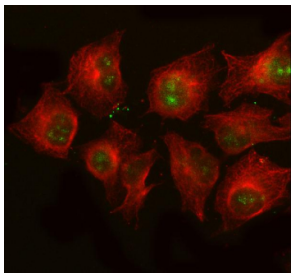
S100P Antibody / Protein S100-P (FY12704)

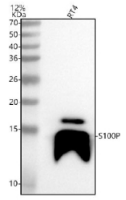
Catalog No.	Formulation	Size
FY12704	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

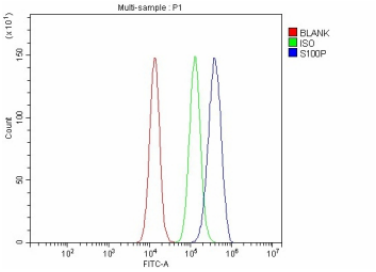
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P25815
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This S100P antibody is available for research use only.



Immunofluorescent staining of S100P using anti-S100P antibody (green) and anti-Beta Tubulin antibody (red). S100P was detected in immunocytochemical section of 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-S100P antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight 594 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of S100P using anti-S100P antibody. Lane 1: human RT4 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-S100P 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 predominant band is detected at ~14 kDa, which is typical for S100P due to anomalous SDS-PAGE mobility of EF-hand S100 proteins relative to the ~10 kDa calculated mass.



Flow Cytometry analysis of SiHa cells using anti-S100P 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-S100P 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

S100P antibody detects Protein S100-P (also known as S100 calcium-binding protein P), a member of the S100 family of calcium-binding proteins that regulate diverse cellular processes including cell growth, differentiation, cytoskeletal dynamics, and signal transduction. Encoded by the S100P gene on chromosome 4p16, this small acidic protein contains two EF-hand calcium-binding motifs that undergo conformational change upon calcium binding, enabling interaction with target proteins. Through these calcium-dependent interactions, S100P influences intracellular signaling cascades and modulates cytoskeletal organization, motility, and transcriptional activity.

S100P is expressed in multiple tissues, including placenta, pancreas, lung, and prostate, and is frequently upregulated in cancers where it contributes to tumor progression and metastasis. The protein interacts with the receptor for advanced glycation end products (RAGE) at the cell surface, activating downstream MAPK and NF-kB pathways that promote proliferation, migration, and resistance to apoptosis. Elevated S100P expression has been associated with poor prognosis in breast, pancreatic, and colorectal carcinomas, making it a biomarker for aggressive tumor phenotypes and potential therapeutic target.

The S100P antibody is widely used in cancer biology and molecular pathology to study calcium signaling and metastasis regulation. In western blot analysis, S100P appears as an approximately 11 kilodalton band corresponding to the monomeric form, while immunohistochemistry reveals both cytoplasmic and nuclear localization depending on cell type. In cancer diagnostics, S100P immunoreactivity is employed to distinguish pancreatic ductal adenocarcinoma from benign pancreatic lesions and to evaluate metastatic spread. The antibody is also valuable in studies of placental function and epithelial differentiation where S100P participates in hormone-responsive signaling networks.

Beyond oncology, S100P contributes to inflammation and tissue repair. It enhances fibroblast motility and collagen remodeling through calcium-dependent activation of small GTPases such as Rac1 and Cdc42. It also regulates gene transcription by interacting with nuclear receptors and coactivators, influencing expression of stress-response and survival genes. The S100P antibody enables detailed characterization of these pathways, providing insight into the molecular mechanisms that couple calcium signaling to cell behavior. Researchers employ it in western blotting, immunofluorescence, and immunohistochemistry to quantify expression and localization in tissue or cultured cells.

Because of its strong link to metastasis, S100P has emerged as a therapeutic target and diagnostic biomarker. Inhibitors of the S100P-RAGE interaction are under investigation for their potential to reduce tumor invasion and inflammation. The

S100P antibody supplied by NSJ Bioreagents is validated for high specificity and reproducibility, supporting applications in cancer research, calcium signaling studies, and biomarker development. Its ability to detect S100P in both human and model systems makes it a versatile reagent for translational research aimed at understanding calcium-regulated cellular processes.

Application Notes

Optimal dilution of the S100P antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human S100P was used as the immunogen for the S100P antibody.

Storage

After reconstitution, the S100P antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.