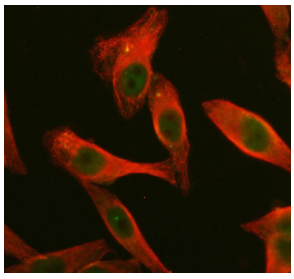
DUSP2 Antibody / Dual specificity protein phosphatase 2 (FY13443)

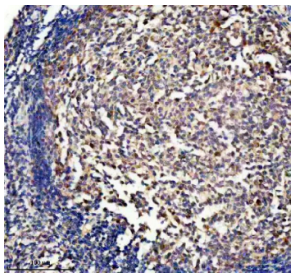
Catalog No.	Formulation	Size
FY13443	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

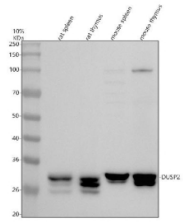
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	Q05923
Localization	Cytoplasm
Applications	Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml Western blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This DUSP2 antibody is available for research use only.



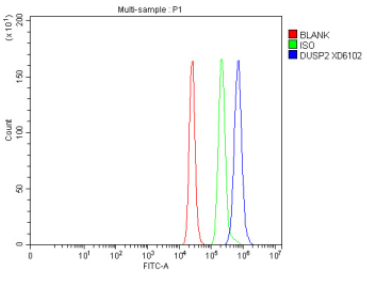
Immunofluorescence localization of DUSP2 in HeLa cells. DUSP2 expression was analyzed in cultured HeLa cells by immunofluorescence. Cells were fixed, subjected to enzymatic antigen retrieval, and incubated with an anti-DUSP2 antibody together with an alpha-tubulin antibody as a cytoskeletal marker. Fluorescent secondary antibodies were used for detection. DUSP2 staining is visualized in green, alpha-tubulin in red.



Immunohistochemistry of DUSP2 in human tonsil tissue. DUSP2 expression was examined in a paraffin-embedded section of human tonsil. Heat-mediated antigen retrieval was performed in EDTA buffer (pH 8.0). After blocking with normal serum, the section was incubated with an anti-DUSP2 antibody, followed by an HRP-conjugated secondary antibody and DAB chromogen. Brown staining indicates DUSP2 immunoreactivity, with hematoxylin counterstaining highlighting tissue architecture.



Western blot analysis of DUSP2 in rodent lymphoid tissues. DUSP2 expression was examined by western blot in rat spleen, rat thymus, mouse spleen, and mouse thymus tissue lysates resolved by SDS-PAGE and transferred to a nitrocellulose membrane. A prominent band corresponding to full-length DUSP2 was detected at approximately 34 kDa, consistent with the predicted molecular weight. One or two weaker lower-molecular-weight bands were also observed, which are consistent with previously reported truncated or proteolytically processed DUSP2 species in lymphoid tissues. Stronger signal in spleen and thymus reflects expected immune-enriched expression of DUSP2.



Flow cytometry analysis of fixed and permeabilized human RT4 cells with DUSP2 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= DUSP2 antibody.

Description

DUSP2 antibody targets Dual specificity protein phosphatase 2, encoded by the DUSP2 gene. Dual specificity protein phosphatase 2, also called Dual specificity protein phosphatase PAC-1 or PAC1, is a cytoplasmic and nuclear enzyme that belongs to the family of dual-specificity phosphatases, which dephosphorylate both phosphotyrosine and phosphoserine or phosphothreonine residues. DUSP2 is best known for its role in regulating mitogen-activated protein kinase signaling by directly modulating MAP kinase phosphorylation status.

Functionally, Dual specificity protein phosphatase 2 acts as a negative regulator of MAPK pathways, particularly those involving ERK and p38 signaling. By dephosphorylating activated MAP kinases, DUSP2 controls signal intensity and duration, ensuring appropriate cellular responses to extracellular stimuli. A DUSP2 antibody supports studies focused on signal transduction, kinase regulation, and immune-related signaling pathways.

DUSP2 expression is enriched in immune cells, including lymphocytes, where it plays an important role in regulating activation, proliferation, and inflammatory responses. Its expression pattern reflects a specialized function in immune signaling rather than ubiquitous housekeeping activity. Subcellular localization of DUSP2 can shift between the cytoplasm and nucleus depending on activation state and signaling context.

From a disease-relevance perspective, Dual specificity protein phosphatase 2 has been investigated in inflammatory disorders, autoimmune disease, and cancer. Altered DUSP2 expression or activity can lead to prolonged MAPK signaling, contributing to dysregulated immune responses and abnormal cell growth. As a result, DUSP2 is considered an important regulatory node in pathways that balance activation and suppression of cellular signaling.

At the molecular level, Dual specificity protein phosphatase 2 contains a conserved catalytic phosphatase domain and regulatory regions that mediate interaction with MAP kinases. Post-translational modifications and cellular context can influence its activity and apparent behavior in biochemical assays without altering the primary amino acid sequence.

DUSP2 antibody reagents support research applications focused on MAPK signaling regulation and immune cell biology, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the DUSP2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Dual specificity protein phosphatase 2 recombinant protein (amino acids M1-G250) was used as the immunogen for the DUSP2 antibody.

Storage

After reconstitution, the DUSP2 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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