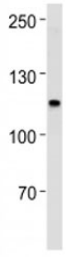
MSH2 Antibody for IF / MSH2 Immunofluorescence Antibody (F41546)

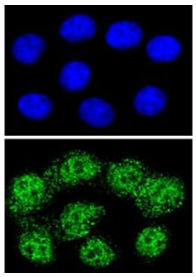
Catalog No.	Formulation	Size
F41546-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F41546-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

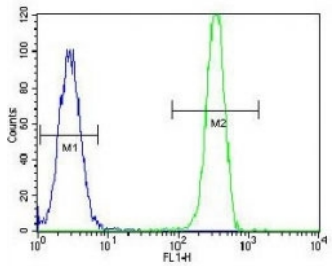
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P43246
Applications	Western Blot : 1:1000 Immunofluorescence : 1:10-1:50 Flow Cytometry : 1:10-1:50
Limitations	This MSH2 antibody is available for research use only.



MSH2 antibody western blot analysis in SW480 lysate.



MSH2 Antibody for IF / MSH2 Immunofluorescence Antibody. Confocal immunofluorescence analysis of MSH2 Antibody for IF in human HeLa cells. MutS homolog 2 / MSH2 is visualized using Alexa Fluor 488-conjugated goat anti-rabbit IgG (green), showing strong nuclear fluorescence with a punctate and granular distribution consistent with localization of the MSH2 DNA mismatch repair protein within the nucleus. The top panel shows DAPI nuclear staining (blue), while the lower panel highlights MSH2 immunofluorescent signal concentrated within the nuclei of individual cells. This staining pattern reflects the expected nuclear localization of MSH2 in actively proliferating cells.



MSH2 antibody flow cytometric analysis of HeLa cells (green) compared to a negative control (blue). FITC-conjugated goat-anti-rabbit secondary Ab was used for the analysis.

Description

MutS homolog 2 (MSH2) is a nuclear DNA mismatch repair protein encoded by the MSH2 gene and plays a central role in maintaining genomic stability. MSH2 Antibody for IF enables visualization of MutS homolog 2 / MSH2 using immunofluorescence microscopy, allowing researchers to study nuclear localization and distribution of this essential DNA repair protein at the cellular level. MSH2 forms heterodimeric complexes with other mismatch repair proteins, including MSH6 and MSH3, enabling recognition and repair of base-base mismatches and insertion-deletion loops that arise during DNA replication. Because this pathway preserves genome integrity, MSH2 expression and localization are widely investigated in studies of DNA repair, cell cycle regulation, and tumor biology.

MSH2 antibody, also referred to as MutS homolog 2 antibody or hMSH2 antibody in the literature, detects a nuclear protein that is typically concentrated within the cell nucleus where DNA mismatch repair occurs. Immunofluorescence staining with an MSH2 Antibody for IF typically produces strong nuclear fluorescence, reflecting the proteinÃ¢Â€Â™s role in genomic maintenance and replication-associated repair processes. This nuclear staining pattern makes immunofluorescence particularly useful for confirming the intracellular localization of MSH2 and for distinguishing it from cytoplasmic proteins during imaging experiments.

Immunofluorescence analysis using MSH2 Antibody for IF enables high-resolution visualization of MSH2 distribution in cultured cells and tissue sections. Fluorescence microscopy allows researchers to observe nuclear accumulation of MSH2 in individual cells, evaluate heterogeneity of expression across cell populations, and examine potential relocalization events during DNA damage responses. Because immunofluorescence provides spatial information that is not accessible through bulk biochemical methods, it is frequently used to investigate the subcellular dynamics of DNA repair proteins and their interactions with chromatin.

MSH2 Antibody for IF is also well suited for multicolor fluorescence microscopy experiments in which MSH2 localization can be evaluated alongside nuclear markers, DNA damage indicators, or additional mismatch repair proteins. Combining MSH2 staining with other fluorescent markers enables researchers to investigate colocalization with replication machinery, DNA repair complexes, or chromatin-associated structures. Through these imaging approaches, immunofluorescence detection of MSH2 provides valuable insight into nuclear DNA repair pathways, cellular responses to genomic damage, and molecular mechanisms that influence genome stability.

Application Notes

Titration of the MSH2 Antibody for IF may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 637-665 from the human protein was used as the immunogen for this MSH2 antibody.

Storage

Aliquot the MSH2 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

MutS homolog 2 antibody, DNA mismatch repair protein MSH2 antibody, hMSH2 antibody, MSH2 mismatch repair antibody