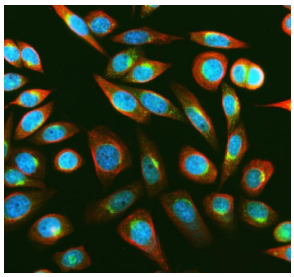
MSRA Antibody / Peptide methionine sulfoxide reductase A (FY12074)

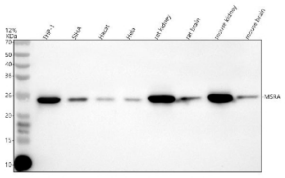
Catalog No.	Formulation	Size
FY12074	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	Q9UJ68
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This MSRA antibody is available for research use only.



IF analysis of MSRA using anti-MSRA antibody (green) and anti-Beta Tubulin antibody (red). MSRA 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-MSRA antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 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 MSRA using anti-MSRA antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human THP-1 whole cell lysates, Lane 2: human SIHA whole cell lysates, Lane 3: human Hacat whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: rat kidney tissue lysates, Lane 6: rat brain tissue lysates, Lane 7: mouse kidney tissue lysates, Lane 8: mouse brain tissue 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-MSRA 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 an ECL Plus Western Blotting Substrate. The expected band size for MSRA is at 26 kDa.

Description

MSRA antibody detects Peptide methionine sulfoxide reductase A, encoded by the MSRA gene. Peptide methionine sulfoxide reductase A is an enzyme that reduces oxidized methionine residues in proteins, repairing oxidative damage and maintaining protein function. MSRA antibody provides researchers with a specific reagent for studying oxidative stress responses, protein repair, and aging.

Peptide methionine sulfoxide reductase A belongs to the methionine sulfoxide reductase family of antioxidant enzymes. Research using MSRA antibody has shown that it catalyzes the stereospecific reduction of methionine-S-sulfoxide back to methionine. This activity restores protein structure and function after oxidative damage, contributing to cellular protection against reactive oxygen species.

Studies with MSRA antibody have revealed that the enzyme is expressed in multiple tissues, including brain, liver, and heart. Its localization to cytoplasm and mitochondria allows it to safeguard proteins in compartments most vulnerable to oxidative stress. This dual localization emphasizes its importance in protecting cellular integrity.

Dysregulation of Peptide methionine sulfoxide reductase A has been linked to neurodegenerative disease, cardiovascular pathology, and aging. Research using MSRA antibody has shown that deficiency accelerates accumulation of damaged proteins, impairing neuronal survival and increasing vulnerability to oxidative stress. Conversely, overexpression of MSRA extends lifespan in model organisms and enhances resistance to oxidative injury. These findings suggest therapeutic potential in oxidative stress-related diseases.

MSRA antibody is widely used in western blotting, immunohistochemistry, and enzyme activity studies. Western blotting quantifies levels across tissues and conditions, immunohistochemistry demonstrates expression in brain and heart, and enzymatic assays confirm repair activity. These approaches make MSRA antibody indispensable in oxidative biology and aging research.

By supplying validated MSRA antibody reagents, NSJ Bioreagents supports studies into oxidative stress, protein repair, and disease. Detection of Peptide methionine sulfoxide reductase A provides researchers with insight into how antioxidant enzymes maintain protein quality and healthspan.

Application Notes

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

Immunogen

E.coli-derived human MSRA recombinant protein (Position: Q34-N215) was used as the immunogen for the MSRA antibody.

Storage

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