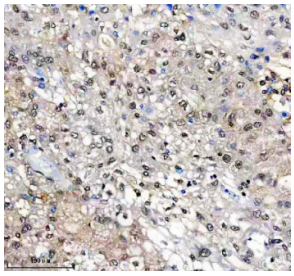
SUOX Antibody / Sulfite oxidase [clone 26S92] (FY13412)

Catalog No.	Formulation	Size
FY13412	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

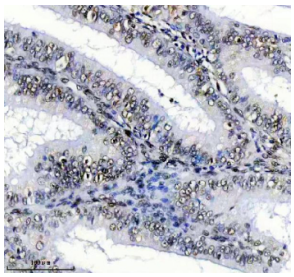
Recombinant RABBIT MONOCLONAL

Bulk quote request

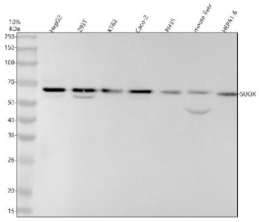
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	26S92
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P51687
Localization	Cytoplasm
Applications	Western Blot : 1:500-1:2000 Immunohistochemistry : 1:50-1:200
Limitations	This SUOX antibody is available for research use only.



Immunohistochemical staining of FFPE human liver cancer tissue with SUOX antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunohistochemical staining of FFPE human endometrial cancer tissue with SUOX antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis of SUOX expression in human HepG2, 293T, K562, Caco-2, rat RH35, mouse liver tissue and HEPA1-6 cell lysates using SUOX antibody. A predominant band is detected at approximately 65 kDa, consistent with Sulfite oxidase. A weaker lower molecular weight band is observed in some samples, which may reflect a processed or partially degraded form of SUOX.

Description

SUOX antibody targets Sulfite oxidase (SUOX), a mitochondrial enzyme that catalyzes the terminal step of sulfite detoxification by converting sulfite to sulfate. SUOX localizes to the mitochondrial intermembrane space, where it plays an essential role in sulfur amino acid metabolism and protection against sulfite toxicity. As a molybdenum-dependent enzyme, SUOX requires a molybdenum cofactor for catalytic activity and functions in close association with mitochondrial electron transport components. Proper SUOX activity is critical for maintaining cellular redox balance and preventing accumulation of reactive sulfite intermediates.

Functionally, Sulfite oxidase is involved in the catabolism of sulfur-containing amino acids such as cysteine and methionine. During this process, sulfite is generated as an intermediate that must be efficiently oxidized to sulfate to avoid cellular damage. SUOX-mediated oxidation prevents sulfite-induced oxidative stress and supports normal metabolic flux through sulfur pathways. Because sulfite can interfere with mitochondrial respiration and protein function, SUOX serves as an important protective enzyme within metabolically active cells. An SUOX antibody supports studies examining mitochondrial metabolism and detoxification mechanisms.

SUOX expression is most prominent in tissues with high metabolic and detoxification demands, including liver and kidney, where sulfur metabolism is particularly active. Its mitochondrial localization and enzymatic role make SUOX a useful marker for studies focused on mitochondrial function and metabolic homeostasis. Analysis of SUOX expression and distribution can provide insight into how cells manage reactive metabolic byproducts and maintain biochemical balance under physiological and stress conditions.

From a biological and disease-relevance perspective, deficiencies in SUOX activity are associated with severe metabolic disorders characterized by accumulation of sulfite and related metabolites. Such conditions highlight the essential role of SUOX in human health and underscore the consequences of disrupted sulfur metabolism. In research settings, SUOX is studied in the context of inherited metabolic disease, mitochondrial dysfunction, and oxidative stress-related pathology. Understanding SUOX regulation and expression contributes to broader investigations of mitochondrial enzyme networks and metabolic disease mechanisms.

At the molecular level, SUOX is encoded by the SUOX gene and produces a protein of approximately 65 kDa that assembles into an active homodimer. Each subunit contains domains responsible for molybdenum cofactor binding and electron transfer. SUOX activity and stability depend on proper mitochondrial targeting and cofactor availability. An SUOX antibody supports research applications focused on sulfur metabolism, mitochondrial enzyme function, and metabolic regulation, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

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

Immunogen

A synthesized peptide derived from human Sulfite oxidase protein was used as the immunogen for the SUOX antibody.

Storage

Store the SUOX antibody at -20oC.