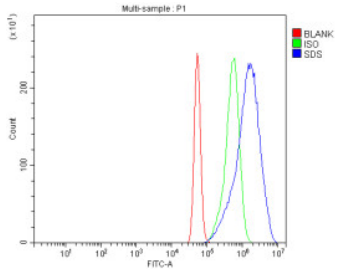
Serine Dehydratase Antibody / SDS Antibody (FY13493)

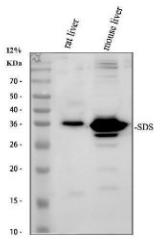
Catalog No.	Formulation	Size
FY13493	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P20132
Applications	Western Blot : 0.5-1ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This Serine Dehydratase Antibody is available for research use only.



Serine Dehydratase Antibody A431 Cell FACS. Flow cytometry analysis of fixed and permeabilized A431 cells using Serine Dehydratase Antibody / SDS Antibody. Cells were stained with the primary antibody at 1 ug/10^6 cells, followed by a DyLight 488-conjugated goat anti-rabbit secondary antibody. The blue histogram represents cells stained with the Serine Dehydratase Antibody, the green histogram represents the rabbit IgG isotype control, and the red histogram represents the unstained blank control. The clear rightward shift of the SDS-stained population demonstrates specific intracellular detection of serine dehydratase in A431 cells. This Serine Dehydratase Antibody, also called SDS Antibody, is suitable for studies of amino acid metabolism, gluconeogenesis, liver physiology, and metabolic regulation.



Serine Dehydratase Antibody Rat and Mouse Liver WB. Western blot analysis of rat and mouse liver tissue lysates using Serine Dehydratase Antibody / SDS Antibody. Lane 1: rat liver tissue lysate. Lane 2: mouse liver tissue lysate. Proteins were separated on a 12% SDS-PAGE gel, transferred to a nitrocellulose membrane, and incubated with the primary antibody at 0.5 ug/ml, followed by an HRP-conjugated goat anti-rabbit secondary antibody for chemiluminescent detection. A distinct band was detected at approximately 35 kDa in both liver lysates, consistent with the expected molecular weight of serine dehydratase. This Serine Dehydratase Antibody, also called SDS Antibody, is suitable for studies of amino acid metabolism, gluconeogenesis, liver physiology, and metabolic regulation.

Description

Serine Dehydratase Antibody / SDS Antibody recognizes serine dehydratase, a pyridoxal phosphate-dependent enzyme encoded by the SDS gene. This enzyme catalyzes the deamination of L-serine to pyruvate and ammonia and is also capable of catalyzing the deamination of L-threonine to produce alpha-ketobutyrate and ammonia, although L-serine is considered its preferred physiological substrate. Serine dehydratase is expressed predominantly in the liver, where it contributes to amino acid catabolism, gluconeogenesis, and maintenance of metabolic homeostasis. Because its activity links amino acid metabolism with energy production, Serine Dehydratase Antibody is useful for studies of hepatic metabolism and nutritional regulation.

Expression of SDS is tightly regulated by hormonal and dietary signals. Glucagon, glucocorticoids, fasting, and high-protein diets increase serine dehydratase expression, while insulin suppresses transcription in response to carbohydrate availability. These regulatory mechanisms allow the liver to adjust amino acid utilization according to metabolic demand. Altered SDS expression has therefore become an important marker for investigating metabolic adaptation, hepatic physiology, fasting responses, diabetes, obesity, and other disorders involving disrupted glucose and amino acid metabolism. A Serine Dehydratase Antibody enables researchers to examine these changes in tissue samples and experimental disease models.

Beyond its metabolic role, serine dehydratase has attracted interest in studies of liver function, nitrogen metabolism, and metabolic reprogramming. By converting serine into pyruvate, the enzyme supplies carbon for the tricarboxylic acid cycle and gluconeogenesis while simultaneously participating in nitrogen disposal through ammonia production. Changes in serine metabolism have also been associated with cancer biology, nonalcoholic fatty liver disease, and other metabolic disorders, making SDS a valuable target for investigations into altered cellular metabolism. Serine Dehydratase Antibody can therefore support studies examining metabolic enzyme regulation, hepatic differentiation, and disease-associated metabolic remodeling.

In laboratory research, SDS expression is commonly evaluated using Western blotting, immunohistochemistry, immunofluorescence, and other protein detection methods to characterize tissue-specific expression and metabolic responses. Since the liver exhibits the highest endogenous expression, hepatic tissues are frequently used as positive controls for antibody validation and metabolic studies. A Serine Dehydratase Antibody is a valuable research tool for detecting endogenous SDS expression and investigating amino acid metabolism, gluconeogenesis, liver physiology, metabolic regulation, and energy homeostasis.

Explore our Metabolism Antibodies page to discover additional antibodies for investigating metabolic pathways, amino acid metabolism, energy homeostasis, enzymatic regulation, and cellular metabolism.

Application Notes

Optimal dilution of the Serine Dehydratase Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Serine Dehydratase recombinant protein (amino acids M1-K328) was used as the immunogen for

the Serine Dehydratase Antibody.

Storage

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

Alternate Names

Serine Dehydratase antibody, SDS antibody, L-Serine Dehydratase antibody, L-Threonine Deaminase antibody