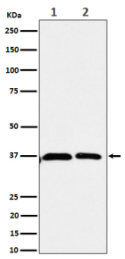
SRR Antibody / Serine racemase [clone 30S73] (FY13185)

Catalog No.	Formulation	Size
FY13185	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	2-3 weeks
Species Reactivity	Human
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	30S73
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	Q9GZT4
Applications	Western Blot : 1:500-1:2000
Limitations	This SRR antibody is available for research use only.



Western blot analysis of Serine racemase expression in human (1) 293 cell lysate; (2) U-87 MG cell lysate using SRR antibody. Predicted molecular weight ~37 kDa.

Description

SRR antibody detects Serine racemase, encoded by the SRR gene. Serine racemase is a pyridoxal phosphate dependent enzyme that catalyzes the conversion of L-serine to D-serine. D-serine functions as a co-agonist at NMDA receptors in the brain, where it modulates synaptic plasticity, learning, and memory. SRR antibody provides researchers

with a specific reagent to study neurotransmission, amino acid metabolism, and neuropsychiatric disease.

Serine racemase is expressed primarily in astrocytes and neurons, where it controls production of D-serine in the central nervous system. Research using SRR antibody has shown that D-serine binds to the glycine site of NMDA receptors, regulating receptor activation. This makes SRR activity essential for synaptic plasticity, long-term potentiation, and cognitive function. Loss of D-serine production due to impaired SRR activity results in deficits in NMDA receptor signaling.

Dysregulation of Serine racemase is linked to neurological and psychiatric disorders. Studies with SRR antibody have revealed that reduced activity contributes to schizophrenia by decreasing D-serine availability and NMDA receptor function. Conversely, excessive D-serine production may promote excitotoxicity and neurodegeneration in conditions such as amyotrophic lateral sclerosis and Alzheimer's disease. These findings position SRR as both a biomarker and a potential therapeutic target.

Beyond the brain, Serine racemase contributes to metabolism and signaling in peripheral tissues. Research using SRR antibody has suggested roles in kidney function and immune regulation. Because D-serine influences both neural and systemic physiology, SRR is an enzyme with broad biological significance.

SRR antibody is widely used in western blotting, immunohistochemistry, and immunofluorescence. Western blotting detects full-length and truncated forms, immunohistochemistry highlights expression in brain regions, and immunofluorescence demonstrates astrocytic and neuronal localization. These applications make SRR antibody versatile in neuroscience and physiology research.

By supplying validated SRR antibody reagents, NSJ Bioreagents supports research into neurotransmission, psychiatric disease, and neurodegeneration. Detection of Serine racemase provides insight into how amino acid metabolism intersects with brain signaling and disease.

Application Notes

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

Immunogen

A synthesized peptide derived from human Serine racemase was used as the immunogen for the SRR antibody.

Storage

Store the SRR antibody at -20oC.