

Recombinant Human Serine Racemase, His-tagged

Cat. No. SRR-1575H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human SRR protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography.
Species	Human
Source	E.coli
Description	SRR, also known as serine racemase, is an enzyme which generates D-serine from L-serine. D-serine acts as a neuronal signaling molecule by activating NMDA receptors in the brain. Mammalian serine racemase is a pyridoxal 5"-phosphate dependent enzyme that catalyzes both the racemization of L-serine to D-serine and also the elimination of water from L-serine, generating pyruvate and ammonia. The enzyme is physiologically stimulated by divalent cations (e.g, magnesium) and is allosterically activated by the magnesium/ATP complex.
Form	Liquid. In 20mM Tris-HCl buffer (pH 8.0) containing 20% glycerol, 0.1M NaCl, 1mM DTT.
Molecular Weight	39.1 kDa (364aa), confirmed by MALDI-TOF.
Purity	>85% by SDS-PAGE
Concentration	0.5 mg/ml (determined by Bradford assay)
Sequences of amino	MGSSHHHHHH SSGLVPRGSH MGSHMCAQYC ISFADVEKAH INIRDSIHLT

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acids

PVLTSSILNQ LTGRNLFFKC ELFQKTGSFK IRGALNAVRS LVPDALERKP
 KAVVTHSSGN HGQALTYAAK LEGIPAYIVV PQTAPDCKKL AIQAYGASIV
 YCEPSDESRE NVAKRVTET EGIMVHPNQE PAVIAGQGTI ALEVLNQVPL
 VDALVVPVGG GGMLAGIAIT VKALKPSVKV YAAEPSNADD CYQSKLKGL
 MPNLYPPETI ADGVKSSIGL NTWPIIRDLV DDIFTVTEDE IKCATQLVWE
 RMKLLIEPTA GVGVAAVLSQ HFQTVSPEVK NICIVLSGGN VDLTSSITWV
 KQAERPASYQ SVSV

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

Pathways

Glycine and serine and threonine metabolism

GENE INFORMATION
Gene Name

[SRR serine racemase \[Homo sapiens \]](#)

Official Symbol

[SRR](#)

Synonyms

SRR; serine racemase; ILV1; ISO1; OTTHUMP00000115699; D-serine dehydratase; L-serine dehydratase; D-serine ammonia-lyase; L-serine ammonia-lyase; EC 5.1.1.18; EC 4.3.1.17; EC 4.3.1.18

Gene ID

[63826](#)

mRNA Refseq

[NM_021947](#)

Protein Refseq

[NP_068766](#)

MIM

[606477](#)

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UniProt ID	Q9GZT4
Chromosome Location	17p13
Function	ATP binding; D-serine ammonia-lyase activity; L-serine ammonia-lyase activity; PDZ domain binding; calcium ion binding; glycine binding; isomerase activity; lyase activity; magnesium ion binding; nucleotide binding; protein homodimerization activity; pyridoxal phosphate binding; serine racemase activity; threonine racemase activity
PDBrendering based on 1pwe.	

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