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S4503 ▶ **Sigma-Aldrich.**

DL-Serine hydroxamate

★★★★★ (0)

seryl-tRNA synthetase inhibitor

Synonyme(s):

SHX

Empirical Formula (Hill Notation):

C₃H₈N₂O₃

Numéro CAS: **55779-32-3**

Poids moléculaire: 120.11

Numéro MDL: **MFCD00055712**

ID de substance PubChem: **24899606**

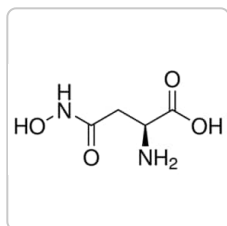
NACRES: NA.26

Référence	Conditionnement	Disponibilité	Prix	Quantité
S4503-250MG	250 MG	✓ Only 1 left in stock (more on the way) Détails...	352,00 €	- +
S4503-1G	1 G	✓ Only 3 left in stock (more on the way) Détails...	1 130,00 €	- +

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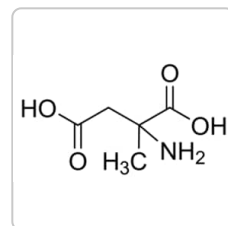
PRODUITS RECOMMANDÉS



Sigma-Aldrich

A6508**L-Aspartic acid β -hydroxamate**

serine racemase inhibitor

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Sigma-Aldrich

M6001 **α -Methyl-DL-aspartic acid**[Consulter le prix et la disponibilité](#)

PROPRIÉTÉS

Niveau de qualité	200
Essai/Dosage	≥97% (TLC)
Forme	powder
technique(s)	ligand binding assay: suitable
Couleur	white to off-white
application(s)	cell analysis
Temp. de stockage	-20°C
SMILES string	NC(CO)C(=O)NO

InChI	1S/C3H8N2O3/c4-2(1-6)3(7)5-8/h2,6,8H,1,4H2,(H,5,7)
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InChI key	LELBJGDDGUFRP-UHFFFAOYSA-N
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Catégories apparentées

[Amino Acids](#)

DESCRIPTION

Application

Serine has been used as an inhibitor of seryl-tRNA synthetase. DL-Serine hydroxamate is used to induce metabolic synthesis of guanosine 3'-diphosphate 5'-diphosphate (ppGpp) in *E. coli* by amino acid starvation. It is also used to synchronize cell cycle in *E. coli* cultures by inhibition of tRNA charging.

Conditionnement

250 mg in poly bottle

1 g in poly bottle

Actions biochimiques/physiologiques

Serine is involved in the one-carbon unit metabolism. It is associated with the biosynthesis of cysteine, ceramide, phosphatidylserine, purine and pyrimidine. In bacteria, it participates in tryptophan synthesis. Gluconeogenesis, one of the important biochemical processes, involves serine, particularly in ruminants. Protein phosphorylation is one such event that utilizes serine. Glycine, a metabolic product of serine, serves as an antioxidant and a neurotransmitter. D-serine is known to activate the

N-methyl-D-aspartate (NMDA) receptors of the brain. Serine hydroxamate, a structural analogue of serine prevents seryl-tRNA (transfer ribonucleic acid) charging and thereby decreases phospholipid and nucleic acid synthesis in *Escherichia coli*.

INFORMATIONS SUR LA SÉCURITÉ

Code de la classe de stockage

13 - Non Combustible Solids

WGK

WGK 3

Flash Point(F)

Not applicable

Point d'éclair C

Not applicable

Équipement de protection individuelle

Eyeshields, Gloves, type N95 (US)

DOCUMENTATION

Certificat d'analyse

Saisir un numéro de lot pour rechercher un certificat d'analyse (COA).

Numéro de lot

e.g. 023J5431

Comment saisir un numéro de lot (COA)

Rechercher

Certificat d'origine

Saisir un numéro de lot pour rechercher un certificat d'origine (COO).

Numéro de lot

e.g. 023J5431

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Rechercher

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ARTICLES REVUS PAR DES PAIRS

[Pseudomonas aeruginosa relA contributes to virulence in Drosophila melanogaster.](#)

David L Erickson et al.

Infection and immunity, 72(10), 5638-5645 (2004-09-24)

The stringent response is a mechanism by which bacteria adapt to nutritional deficiencies through the production of the guanine nucleotides ppGpp and pppGpp, produced by the RelA enzyme. We investigated the role of the relA gene in the ability of

[Direct visualization of serine hydrolase activities in complex proteomes using fluorescent active site-directed probes.](#)

M P Patricelli et al.

Proteomics, 1(9), 1067-1071 (2002-05-07)

The field of biochemistry is currently faced with the enormous challenge of assigning functional significance to more than thirty thousand predicted protein products encoded by the human genome. In order to accomplish this daunting task, methods will be required that

Effect of serine hydroxamate and methyl alpha-D-glucopyranoside treatment on nucleoside polyphosphate pools, RNA and protein accumulation in *Streptomyces hygroscopicus*.

D Riesenber et al.

Journal of general microbiology, 130(10), 2549-2558 (1984-10-01)

The accumulation of RNA and protein and the kinetics of nucleoside triphosphate and guanosine polyphosphate pools during amino acid starvation and carbon source downshift were investigated in *Streptomyces hygroscopicus*. RNA accumulation was controlled stringently during both amino acid starvation and

Green fluorescent protein as a noninvasive stress probe in resting *Escherichia coli* cells.

H J Cha et al.

Applied and environmental microbiology, 65(2), 409-414 (1999-01-30)

We constructed and characterized three stress probe plasmids which utilize a green fluorescent protein as a noninvasive reporter in order to elucidate *Escherichia coli* cellular stress responses in quiescent or resting cells. Cellular stress levels were easily detected by fusing

Characterization of two seryl-tRNA synthetases in albomycin-producing *Streptomyces* sp. strain ATCC 700974.

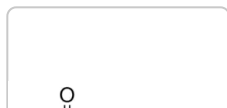
Yu Zeng et al.

Antimicrobial agents and chemotherapy, 53(11), 4619-4627 (2009-09-02)

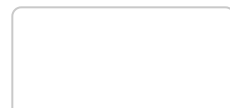
The Trojan horse antibiotic albomycin, produced by *Streptomyces* sp. strain ATCC 700974, contains a thioribosyl nucleoside moiety linked to a hydroxamate siderophore through a serine residue. The seryl nucleoside structure (SB-217452) is a potent inhibitor of seryl-tRNA synthetase (SerRS) in

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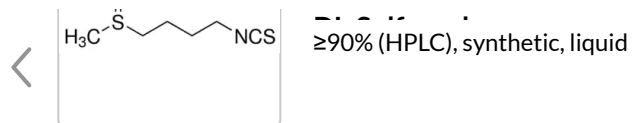
PRODUITS CONSULTÉS RÉCEMMENT



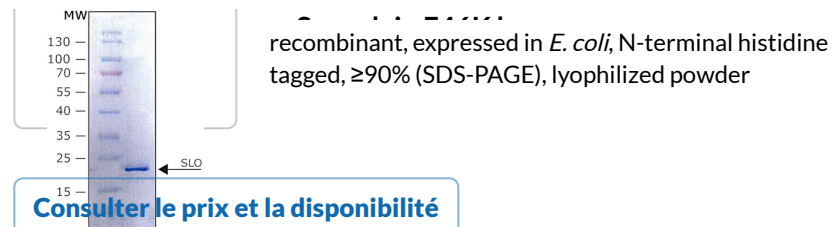
Sigma-Aldrich
S4441



Sigma-Aldrich
S4447



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