

Toutes les
photos (3)

Documents

 [FDS](#)

 [COO/COA](#)

 [Fiche des caractéristiques](#)

Plus de
documents »

S4250 ► **Sigma-Aldrich.**

D-Serine

★★★★★ (0)

≥98% (TLC)

Synonyme(s):

β-Hydroxyalanine, (R)-2-Amino-3-hydroxypropionic acid, Ser

Empirical Formula (Hill Notation):

C₃H₇NO₃

Numéro CAS: **312-84-5**

Poids moléculaire: 105.09

Beilstein: 1721403

Numéro EC: **206-229-4**

Numéro MDL: **MFCD00004269**

ID de substance PubChem: **24278008**

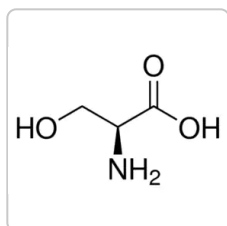
NACRES: NA.32

Référence	Conditionnement	Disponibilité	Prix	Quantité
S4250-5G	5 G	✓ Only 1 left in stock (more on the way) Détails...	51,20 €	− + 
S4250-25G	25 G	✓ Only 2 left in stock (more on the way) Détails...	110,00 €	− + 

[Demander une commande en gros](#)

[Ajouter au panier](#)

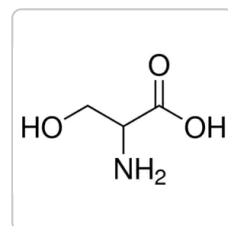
PRODUITS RECOMMANDÉS



Sigma-Aldrich

S4500**L-Serine**

ReagentPlus®, ≥99% (HPLC)

[Consulter le prix et la disponibilité](#)

Sigma-Aldrich

S4375**DL-Serine**

≥98% (TLC)

[Consulter le prix et la disponibilité](#)

PROPRIÉTÉS

Niveau de qualité	200
Essai/Dosage	≥98% (TLC)
Forme	powder
technique(s)	ligand binding assay: suitable
Couleur	white to off-white
application(s)	cell analysis
SMILES string	<chem>N[C@H](CO)C(O)=O</chem>

InChI	1S/C3H7NO3/c4-2(1-5)3(6)7/h2,5H,1,4H2,(H,6,7)/t2-/m1/s1
-------	---

InChI key	MTCFGRXMJLQNBG-UWTATZPHSA-N
-----------	-----------------------------

Gene Information	human ... GRIN1(2902)
------------------	---------------------------------------

Vous recherchez des produits similaires ? Visitez [Guide de comparaison des produits](#)

Catégories apparentées

[Amino Acids](#)

DESCRIPTION

Description générale

D-serine is a dextro amino acid present in neurons, astrocytes, and microglia. It is synthesized from L-serine by the enzyme serine racemase. Racemase also catalyzes the breakdown of D-serine into ammonia and pyruvate. It is oxidized to hydroxypyruvate by D-amino acid oxidase.

D-serine is an unusual amino acid expressed in the mammalian brain.

Application

D-serine has been used as a substrate in D-amino acid oxidase (DAO) activity in human 1321N1 astrocytoma cells. It has also been used in intracerebroventricular administration in rat for the induction of antinociceptive effect.

D-serine has been used to prevent glycine-dependent desensitization of N-methyl D-aspartate receptor (NMDAR) and to study its effects on NMDARs to correct behavioral abnormalities in rats after partial sciatic nerve ligation (PSNL).

Conditionnement

5, 25 g in poly bottle

Actions biochimiques/physiologiques

D-serine is essential for the normal development of dendrites, neuroblast migration and may have therapeutic potential for treating schizophrenia and depression states. The levels of D-serine is elevated in traumatic brain injury (TBI).

D-serine is an agonist and glycine mimic which is active at the strychnine-insensitive glycine binding site associated with the N-methyl-D-aspartate (NMDA) receptor as well as the inhibitory post-synaptic glycine receptor. Along with glutamate, it has a role in various physiological processes including synaptic plasticity and receptor transmission. Dysregulation of D-serine signaling has been linked with neurodegenerative diseases and disorders.

Autres remarques

Tandem Mass Spectrometry data independently generated by Scripps Center for Metabolomics is available to view or download in PDF. [S4250.pdf](#) Tested metabolites are featured on Scripps Center for Metabolomics METLIN Metabolite Database. To learn more, visit sigma.com/metlin.

PRODUITS APPARENTÉS

Application

G004614

HPLC Analysis of Serine Enantiomers on Astec® CHIROBIOTIC® TAG, application for HPLC

[View Pricing](#)

G004725

HPLC Analysis of Fmoc-Serine Enantiomers on Astec® (R,R) P-CAP™, application for HPLC

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

Comment saisir un numéro de lot (COO)

Rechercher

Plus De Documents

[FT-NMR Spectra](#)

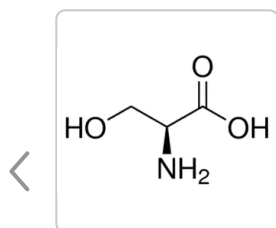
[Spectra - ATR-IR](#)

[Spectra for FT-IR Raman](#)

[Structure Search](#)

[FDS](#)

LES CLIENTS ONT ÉGALEMENT CONSULTÉ



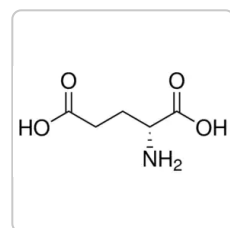
Sigma-Aldrich

S4311

L-Serine

from non-animal source, meets EP, USP testing specifications, suitable for cell culture, 98.5-101.0%

[Consulter le prix et la disponibilité](#)



Sigma-Aldrich

G1001

D-Glutamic acid

≥99% (TLC)

[Consulter le prix et la disponibilité](#)

QUESTIONS FRÉQUEMMENT POSÉES (FAQ)

How does the storage temperature relate to shipping conditions?

The storage conditions that a Sigma-Aldrich catalog and label recommend for products are deliberately conservative. For many products, long-term storage at low temperatures will increase the time during which they are expected to remain in specification and therefore are labeled accordingly. Where short-term storage, shipping time frame, or exposure to conditions other than those recommended for long-term storage will not affect product quality, Sigma-Aldrich will ship at ambient temperature. The products sensitive to short-term exposure to conditions other than their recommended long-term storage are shipped on wet or dry ice. Ambient temperature shipping helps to control shipping costs for our customers. At any time, our customers can request wet- or dry-ice shipment, but the special handling is at customer expense if our product history indicates that the product is stable for regular shipment. See [Shipping and Storage](#) for more information.

Which document(s) contains shelf-life or expiration date information for a given product?

If available for a given product, the recommended re-test date or the expiration date can be found on the Certificate of Analysis.

How do I get lot-specific information or a Certificate of Analysis?

The lot specific COA document can be found by entering the lot number above under the "Documents" section.

How do I find price and availability?

There are several ways to find pricing and availability for our products. Once you log onto our website, you will find the price and availability displayed on the product detail page. You can contact any of our Customer Sales and Service offices to receive a quote. USA customers: 1-800-325-3010 or view [local office numbers](#).

What is the Department of Transportation shipping information for this product?

Transportation information can be found in Section 14 of the product's (M)SDS. To access the shipping information for this material, use the link on the product detail page for the product.

What is the melting point for S4250, D-Serine?

The melting point for this product is 228°C.

What is the solubility of Product S4250, D-Serine?

This product is soluble in water at a concentration of 50mg/mL. It is also soluble in 1M hydrochloric acid. It is not soluble in ethanol or ether.

Is Product S4250, D-Serine, suitable for human consumption?

This product is not suitable for human consumption. This product is intended primarily for laboratory research purposes and should not be used for any other purposes, including but not limited to, in vitro diagnostic purposes, in foods, drugs, medical devices, or cosmetics for humans or animals, or for other commercial purposes.

Can D-Serine, Product No. S4250, be autoclaved?

Yes, solutions of this product can be autoclaved.

My question is not addressed here, how can I contact Technical Service for assistance?

Ask a Scientist [here](#).

ARTICLES REVUS PAR DES PAIRS

Enhanced astrocytic d-serine underlies synaptic damage after traumatic brain injury

Perez EJ, et al.

The Journal of Clinical Investigation, 127(8), 3114-3125 (2017)

D-amino acids in the brain: D-serine in neurotransmission and neurodegeneration.

Wolosker H

FEBS Journal, 275(14), 3514-3526 (2008)

Differential roles of hippocampal glutamatergic receptors in neuropathic anxiety-like behavior after partial sciatic nerve ligation in rats.

Wang XQ

BMC Neuroscience, 16, 14-14 (2015)

Impact of Aging in Microglia-Mediated D-Serine Balance in the CNS

Beltran-Castillo S, et al.
Mediators of Inflammation, 2018 (2018)

Imaging calcium concentration dynamics in small neuronal compartments.

Yasuda R
Science's STKE : Signal Transduction Knowledge Environment, 219, p15-p15 (2004)

[Afficher tous les articles scientifiques apparentés](#)

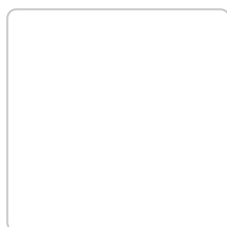
PROTOCOLES ET ARTICLES SCIENTIFIQUES

Chromatograms

HPLC Analysis of FMOC-Serine Enantiomers on Astec® (R,R) P-CAP™
application for HPLC

HPLC Analysis of Serine Enantiomers on Astec® CHIROBIOTIC® TAG
application for HPLC

PRODUITS CONSULTÉS RÉCEMMENT

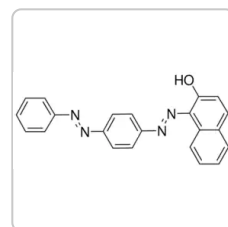


Sigma-Aldrich

S4140

D-Saccharic acid potassium salt

≥98%



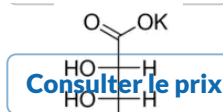
Sigma-Aldrich

S4136

Sudan III

certified by the Biological Stain Commission, BioXtra



[Consulter le prix et la disponibilité](#)[Consulter le prix et la disponibilité](#)

Évaluations

[Soyez le premier à donner votre avis sur ce produit](#)

Questions

[Soyez le premier à poser une question](#)

SERVICE TECHNIQUE

Notre équipe de scientifiques dispose d'une expérience dans tous les secteurs de la recherche, notamment en sciences de la vie, science des matériaux, synthèse chimique, chromatographie, analyse et dans de nombreux autres domaines..

[Contacter notre Service technique](#)

Le contenu de cette page vous a-t-il été utile ?*



Que pouvons-nous faire pour améliorer cette page spécifique de notre site Internet ?

Envoyer

© 2022 Merck KGaA, Darmstadt, Allemagne et/ou ses sociétés affiliées. Tous droits réservés.

La reproduction d'une quelconque partie du contenu de ce site est strictement interdite sans autorisation.

[Conditions d'utilisation du site](#) | [Politique de confidentialité](#) | [Conditions générales de vente](#) | [Consentement relatif au copyright](#) | [Paramètres des cookies](#)