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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

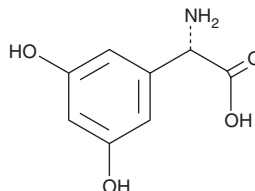
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PRODUCT INFORMATION

(S)-3,5-DHPG

Item No. 14411

CAS Registry No.: 162870-29-3
Formal Name: (αS)-amino-3,5-dihydroxybenzeneacetic acid
Synonym: (S)-3,5-Dihydroxyphenylglycine
MF: C₈H₉NO₄
FW: 183.2
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years
Special Conditions: Air and light sensitive



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(S)-3,5-DHPG is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-3,5-DHPG in the solvent of choice. (S)-3,5-DHPG is soluble in the organic solvent DMSO, which should be purged with an inert gas, at a concentration of approximately 20 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (S)-3,5-DHPG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (S)-3,5-DHPG in PBS, pH 7.2, is approximately 20 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-3,5-DHPG, known more commonly as DHPG, is an agonist of the group I metabotropic glutamate receptors (mGluRs), binding both mGluR1a and mGluR5a ($K_i = 0.9$ and $3.9 \mu\text{M}$, respectively) but not ionotropic glutamate receptors.¹ The (S)-enantiomer is about ten times more potent than the (R)-enantiomer.² (S)-3,5-DHPG is commonly used to evaluate the roles of group I mGluRs in neuronal signaling.^{3,4}

References

1. Mutel, V., Ellis, G.J., Adam, G., *et al.* Characterization of [3H]quisqualate binding to recombinant rat metabotropic glutamate 1a and 5a receptors and to rat and human brain sections. *J. Neurochem.* **75**(6), 2590-2601 (2000).
2. Baker, S.R., Goldsworthy, J., Harden, R.C., *et al.* Enzymatic resolution and pharmacological activity of the enantiomers of 3,5-dihydroxyphenylglycine, a metabotropic glutamate receptor agonist. *Bioorg. Med. Chem. Lett.* **5**(3), 223-228 (1995).
3. Clements, M.A., Swapna, I., and Morikawa, H. Inositol 1,4,5-triphosphate drives glutamatergic and cholinergic inhibition selectively in spiny projection neurons in the striatum. *J. Neurosci.* **33**(6), 2697-2708 (2013).
4. Grolla, A.A., Sim, J.A., Lim, D., *et al.* Amyloid- β and Alzheimer's disease type pathology differentially affects the calcium signalling toolkit in astrocytes from different brain regions. *Cell Death Dis.* (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM