

Product Data Sheet

Product Name: S-1 Methanandamide

Cat. No.: GC13605

Chemical Properties

Cas. No. 157182-50-8

Chemical Name N-(2-hydroxy-1S-methylethyl)-5Z,8Z,11Z,14Z-eicosatetraenamide

SMILES CCCCC/C=C\C/C=C\C/C=C\C/C=C\C/C=C\CCCC(N([C@@H](C)CO)[H])=O

Formula $C_{23}H_{39}NO_2$ M.Wt 361.6

Solubility DMF: >10 mg/ml, DMSO: >30 mg/ml, Ethanol: >100 mg/ml, Ethanol: PBS (1:2): 8.5 mg/ml, PBS (pH 7.2): <100 μ g/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available sizes: ship with RT, or blue ice upon request.

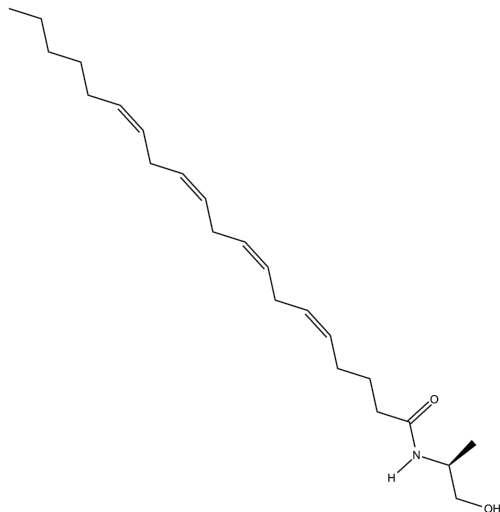
Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Background

S-1 methanandamide is a CB1 receptor ligand.

The cannabinoid receptor type 1 (CB1), is a G protein-coupled cannabinoid receptor located mainly in the central and peripheral nervous system. CB1 is also expressed in several cells relating to metabolism, such as muscle cells, fat cells, liver cells, and the digestive tract. The CB1 receptor has been involved in the maintenance of homeostasis in health and disease, preventing the development of excessive neuronal activity, reducing pain and other inflammatory symptoms. Enhanced receptor expression has been identified in human hepatocellular carcinoma tumor samples and human prostate cancer cells [2].

S-1 methanandamide was a less potent than the C-1 (R) methyl isomer when binding with CB1

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receptor. S-1 methanandamide inhibited electrically evoked contractions in isolated mouse vasa deferentia with an IC₅₀ value of 230 nM. The binding affinity of S-1 methanandamide for CB1 receptors was less than that of AEA, with a K_i of 175 nM for the displacement of radiolabeled CP 55,940 [1].

References:

- [1] Abadji V, Lin S, Taha G, et al. (R)-methanandamide: a chiral novel anandamide possessing higher potency and metabolic stability[J]. Journal of medicinal chemistry, 1994, 37(12): 1889-1893.
- [2] Howlett A C. Cannabinoid receptor signaling[M]//Cannabinoids. Springer Berlin Heidelberg, 2005: 53-79.

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