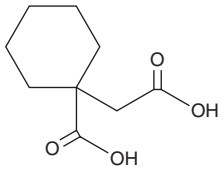
PRODUCT INFORMATION

1-Carboxycyclohexaneacetic Acid

Item No. 36046

CAS Registry No.: 67950-95-2
Synonyms: Gabapentin Impurity E, Gabapentin Related Compound E, NSC 90823
MF: $C_9H_{14}O_4$
FW: 186.2
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

1-Carboxycyclohexaneacetic acid is supplied as a solid. A stock solution may be made by dissolving the 1-carboxycyclohexaneacetic acid in the solvent of choice, which should be purged with an inert gas. 1-Carboxycyclohexaneacetic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1-carboxycyclohexaneacetic acid in these solvents is approximately 25, 33, and 20 mg/ml, respectively.

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 1-carboxycyclohexaneacetic acid can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 1-carboxycyclohexaneacetic acid in PBS (pH 7.2) is approximately 0.16 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1-Carboxycyclohexaneacetic acid is a potential impurity in commercial preparations of the antiepileptic gabapentin.[1] It has also been used as a precursor in the synthesis of antagonists of the serotonin (5-HT) receptor subtype 5-HT_{2A}.[2]

References

1. Ragham, P.K. and Chandrasekhar, K.B. Development and validation of a stability-indicating RP-HPL C-CAD method for gabapentin and its related impurities in presence of degradation products. *J. Pharm. Biomed. Anal.* **125**, 122-129 (2016).
2. Obniska, J., Pawlowski, M., Kolaczkowski, M., *et al.* Synthesis and 5-HT_{1A}/5-HT_{2A} receptor activity of new N-[3-(4-phenylpiperazin-1-yl)-propyl] derivatives of 3-spiro-cyclohexanepyrrolidine-2,5-dione and 3-spiro-beta-tetralonepyrrolidine-2,5-dione. *Pol. J. Pharmacol.* **55(4)**, 553-557 (2003).

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