

PRODUCT INFORMATION



5-Octyl L-glutamate

Item No. 16107

CAS Registry No.: 4852-91-9

Formal Name: L-glutamic acid, 5-octyl ester

Synonyms: NSC 522645, 5-Octyl ester
L-glutamic acid

MF: $C_{13}H_{25}NO_4$

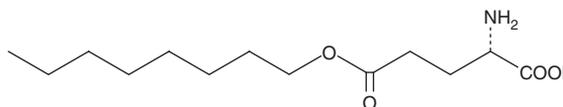
FW: 259.4

Purity: $\geq 95\%$

Supplied as: A crystalline solid

Storage: $-20^{\circ}C$

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

5-Octyl L-glutamate is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-octyl L-glutamate in the solvent of choice. 5-Octyl L-glutamate is soluble in methanol (heated), which should be purged with an inert gas. The solubility of 5-octyl L-glutamate in methanol is approximately 1 mg/ml.

Description

While extracellular glutamic acid is an excitatory neurotransmitter, intracellular glutamic acid is an amino acid that serves numerous metabolic roles, including as a precursor for α -ketoglutarate.¹ 5-Octyl L-glutamate, also known as 5-octyl ester glutamic acid, is a stable, cell-permeable molecule that generates free glutamic acid upon hydrolysis of the ester bond by cytoplasmic esterases. It may be used in experiments to increase levels of cytoplasmic glutamic acid. Alternatively, 5-octyl L-glutamate can be used to synthesize 5-octyl ester derivatives, including 5-octyl α -ketoglutarate, for delivery to cells.²

References

1. Bräuner-Osborne, H., Egebjerg, J., Nielsen, E.O., *et al.* Ligands for glutamate receptors: Design and therapeutic prospects. *J. Med. Chem.* **43(14)**, 2609-2645 (2000).
2. Chin, R.M., Fu, X., Pai, M.Y., *et al.* The metabolite α -ketoglutarate extends lifespan by inhibiting ATP synthase and TOR. *Nature* (2014).

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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