

Product Name: MNI-caged-L-glutamate

Catalog No.: 1490

Batch No.: 57

CAS Number: 295325-62-1

IUPAC Name: (S)- α -Amino-2,3-dihydro-4-methoxy-7-nitro- δ -oxo-1*H*-indole-1-pentanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₄H₁₇N₃O₆.H₂O

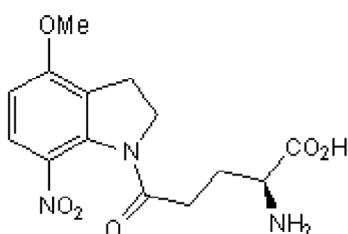
Batch Molecular Weight: 341.32

Physical Appearance: Yellow solid

Solubility: water to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: [α]_D = -5 (Concentration = 1, Solvent = Water)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	49.27	5.61	12.31
Found	48.77	5.43	12.1

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

MNI-caged-L-glutamate is a form of glutamate linked to a photo-protecting group, 4-methoxy-7-nitroindolyl (MNI); it rapidly and efficiently releases L-glutamate (Cat. No. 0218) by photolysis (300 - 380 nm excitation) with a quantum yield in the 0.065-0.085 range. It is also suitable for use with two-photon uncaging microscopy (cross-section of 0.06 GM at 730 nm). MNI-caged-L-glutamate is optically compatible with other chromophores used for fluorescence imaging, such as GFP, YFP and most Ca²⁺ dyes. MNI-caged-L-glutamate is 2.5-fold more efficient at releasing L-glutamate than NI-caged L-glutamate. MNI-caged-L-glutamate is water-soluble, st... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

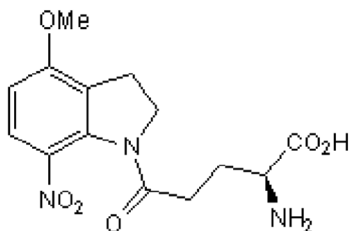
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Batch Molecular Weight: 341.32

Physical Appearance: Yellow solid

Minimum Purity: ≥99%

Batch Molecular Structure:



References:

Ellis-Davies (2019) Two-Photon Uncaging of Glutamate Front Synaptic Neurosci. **10** 48. PMID: 30687075.

Palma-Cerda et al (2012) New caged neurotransmitter analogs selective for glutamate receptor sub-types based on methoxynitroindoline and nitrophenylethoxycarbonyl caging groups. Neuropharmacology. **63** 624. PMID: 22609535.

Maier et al (2005) Comparative analysis of inhibitory effects of caged ligands for the NMDA receptor. J.Neurosci.Methods **142** 1. PMID: 15652611.

Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

water to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold under license from the Medical Research Council

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