

Product Name: MNI caged kainic acid

Catalog No.: 2225

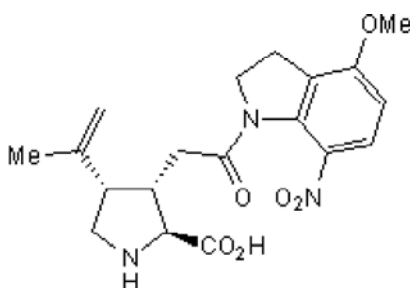
Batch No.: 3

CAS Number: 1315378-75-6

IUPAC Name: (2S,3S,4S)-Carboxy-4-(1-methylethenyl)-3-pyrrolidineacetic acid 4-methoxy-7-nitro-1H-indolinyll amide

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₃N₃O₆.H₂O
Batch Molecular Weight: 407.42
Physical Appearance: White solid
Solubility: water to 5 mM with gentle warming
DMSO to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	56.01	6.18	10.31
Found	56.13	6.39	10.11

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

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Description:

Kainic acid (Cat.No. 0222) caged with the photosensitive 4-methoxy-7-nitroindoliny group. Generates large inward currents at resting membrane potential upon wide field photolysis in Purkinje neurons. Selectively photoactivates kainate receptors when used in conjunction with an AMPA antagonist, such as GYKI 53655 (Cat.No. 2555). Suitable for uncaging with 300-380 nm excitation. Exhibits rapid uncaging rate relative to ionotropic glutamate receptor activation. Also suitable for two-photon uncaging experiments at 720 nm.

Physical and Chemical Properties:

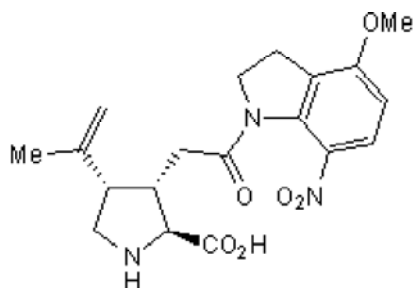
Batch Molecular Formula: C₁₉H₂₃N₃O₆.H₂O

Batch Molecular Weight: 407.42

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



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 5 mM with gentle warming
DMSO to 100 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. Our standard recommendations are:

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 licence from the Medical Research Council

References:

Passlick and Ellis-Davies *et al* (2017) Comparative one- and two-photon uncaging of MNI-glutamate and MNI-kainate on hippocampal CA1 neurons. *J.Neurosci.Methods.* PMID: 29051090.

Palma-Cerda *et al* (2013) New caged neurotransmitter analogues based on methoxy-nitroindole and nitrophenylethoxycarbonyl caging groups are selective for glutamate receptor subtypes. *Neuropharmacology* **63** 624. PMID: 22609535.

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 inhibitor effects of caged ligands for the NMDA receptor. *J.Neurosci.Meths.* **142** 1. PMID: 15652611.

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