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DATASHEET

MNI-caged-L-Glutamate

Product overview

Name	MNI-caged-L-Glutamate
Cat No	HB0423
Alternative names	MNI-Glu, Caged glutamate, MNI-Glutamate,
Biological action	Activator
Purity	>98%
Customer comments	*We are very pleased to have such a company like yours that offers products like MNI-caged-glutamate (MNI-Glu) at a very good price and still with a high quality. So we will rate your product 5 stars!* **Verified customer** *We confirmed Hello Bio MNI-caged-glutamate works very well for our two-photon uncaging experiment. I would be very happy to recommend your MNI glutamate.* **Verified customer** *Works very well. We will be buying MNI-caged glutamate from Hello Bio from now on. We are happy that MNI-caged glutamate from Hello Bio works well for slice electrophysiological recordings in our focal laser stimulation experiments with DPSS laser (350nm).* **Verified customer**
Description	Caged glutamate that rapidly and efficiently releases glutamate when photolysed

Images

Biological Data

Biological description	Caged glutamate that rapidly and efficiently releases glutamate when photolysed (300 - 380 nm excitation). Peak absorption is at 340 nm, the quantum yield is 0.085 and photo release following a light pulse has a half-time of 200 ns. MNI-caged-L-Glutamate is inactive at glutamate receptors and transporters at mM concentrations but does interfere with synpatic activation of $GABA_A$ receptors (IC_{50} = ~0.5 mM). MNI-caged-L-Glutamate is water soluble, resistant to hydrolysis and stable at neutral pH.

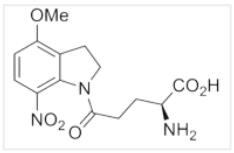
Solubility & Handling

Storage instructions	-20°C (protect from light)
Solubility overview	Soluble in water (50mM) with gentle warming
Handling	

- This compound is light sensitive; exposure to light may affect compound performance. We therefore recommend storing the material in the dark and protecting from light.
- Although stable to hydrolysis and soluble in water (50 mM) it is often necessary to warm stock solutions after thawing.

Important This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	(*S*)-α-Amino-2,3-dihydro-4-methoxy-7-nitro-δ-oxo-1*H*-indole-1-pentanoic acid
Molecular Weight	323.3
Chemical structure	
Molecular Formula	$C_{14}H_{17}N_3O_6$
CAS Number	295325-62-1
PubChem identifier	6604871
SMILES	COC1=C2CCN(C2=C(C=C1)[N+](=O)[O-])C(=O)CC[C@@H](C(=O)O)N
Source	Synthetic
InChi	1S/C14H17N3O6/c1-23-11-4-3-10(17(21)22)13-8(11)6-7-16(13)12(18)5-2-9(15)14(19)20/h3-4,9H,2,5-7,15H2,1H3,(H,19,20)/t9-/m0/s1
InChiKey	GXIDBZKXGUNITQ-VIFPVBQESA-N
Appearance	Yellow solid

References

Photochemical and pharmacological evaluation of 7-nitroindolinyl-and 4-methoxy-7-nitroindolinyl-amino acids as novel, fast caged neurotransmitters.

Canepari et al (2001) J Neurosci Methods 112(1)
PubMedID 11640955

Comparative analysis of inhibitory effects of caged ligands for the NMDA receptor.

Maier et al (2005) J Neurosci Methods 142(1)
PubMedID 15652611

New caged neurotransmitter analogs selective for glutamate receptor sub-types based on methoxynitroindoline and nitrophenylethoxycarbonyl caging groups.

Palma-Cerda et al (2012) Neuropharmacology 63(4)
PubMedID 22609535