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Print Date: Jan 8th 2016

Certificate of Analysis

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Product Name: **DPNI-caged-GABA** **Catalog No.: 2991** **Batch No.: 7**

CAS Number: 927866-58-8

IUPAC Name: 1-(4-Aminobutanoyl)-4-[1,3-*bis*(dihydroxyphosphoryloxy)propan-2-yloxy]-7-nitroindoline

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{23}N_3O_{12}P_2.1¾H_2O$

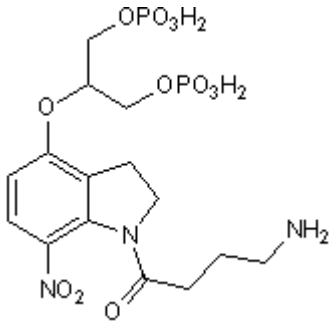
Batch Molecular Weight: 530.82

Physical Appearance: Yellow solid

Solubility: water to 2 mM with gentle warming

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	33.94	5.03	7.92
Found	33.84	4.79	7.9

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Product Information

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IUPAC Name: 1-(4-Aminobutanoyl)-4-[1,3-*bis*(dihydroxyphosphoryloxy)propan-2-yloxy]-7-nitroindoline

Description:

Nitroindoline-caged GABA (Cat.No. 0344) with similar photochemical properties to MNI-glutamate (Cat. No. 1490); for example, the same quantum yield (0.085). Highly water soluble; exhibits fast photorelease that is efficient at near-UV and 405 nm wavelengths.

Physical and Chemical Properties:

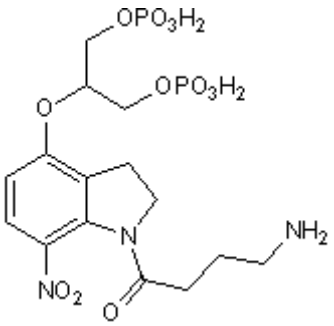
Batch Molecular Formula: $C_{15}H_{23}N_3O_{12}P_2.1¾H_2O$

Batch Molecular Weight: 530.82

Physical Appearance: Yellow solid

Minimum Purity: >98%

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 2 mM with gentle warming

CAUTION - Aqueous solutions of this product can be hard to obtain and warming to 70-80°C with stirring may be required. Brief exposure of the compound to these conditions does not cause any degradation to occur. DPNI-caged GABA should not be dissolved in sodium hydroxide solution. While the compound readily dissolves in this medium it is unstable at high pH and rapidly decomposes.

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.

References:

Wieboldt *et al* (1994) Synthesis and photochemistry of photolabile derivatives of gamma-aminobutyric acid for chemical kinetic investigations of the gamma-aminobutyric acid receptor in the millisecond time region. Biochemistry ***33*** 1526. PMID: 8312272.

Trigo *et al* (2009) Laser photolysis of DPNI-GABA, a tool for investigating the properties and distribution of GABA receptors and for silencing neurons *in situ*. J.Neurosci.Meths. ***181*** 159.

Trigo (2010) Presynaptic miniature GABAergic currents in developing interneurons. Neuron ***66*** 235. PMID: 20435000.

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