

Certificate of Analysis

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Product Name: NPEC-caged-dopamine

Catalog No.: 3992

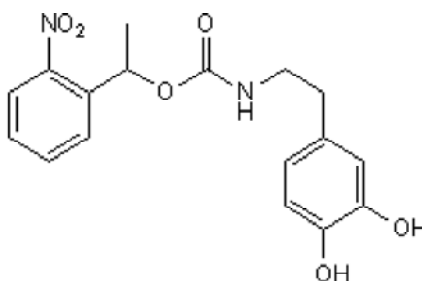
Batch No.: 2

CAS Number: 1257326-23-0

IUPAC Name: (N)-1-(2-Nitrophenyl)ethylcarboxy-3,4-dihydroxyphenethylamine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₇H₁₈N₂O₆
Batch Molecular Weight: 346.33
Physical Appearance: Yellow solid
Solubility: DMSO to 100 mM
 ethanol to 100 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.3 (Dichloromethane:Methanol [9:1])
HPLC: Shows >99.3% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	58.96	5.24	8.09
Found	59.03	5.24	8.39

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

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Product Information

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IUPAC Name: (N)-1-(2-Nitrophenyl)ethylcarboxy-3,4-dihydroxyphenethylamine

Description:

NPEC ((N)-1-(2-nitrophenyl)ethyl) caged version of dopamine (Cat. No 3548); releases dopamine leading to D₁ receptor activation upon UV light illumination (360 nm). Induces PKA activation and c-Fos expression in cortical and striatal neurons, with striatal neurons demonstrating a significantly greater detection and sensitivity to sub-second dopamine signals as compared to cortical neurons.

Physical and Chemical Properties:

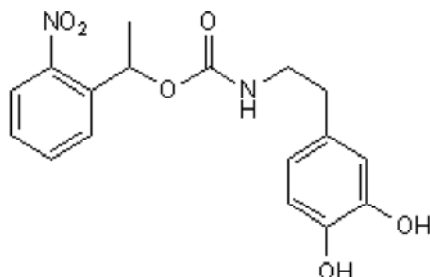
Batch Molecular Formula: C₁₇H₁₈N₂O₆

Batch Molecular Weight: 346.33

Physical Appearance: Yellow 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:

DMSO to 100 mM

ethanol to 100 mM

CAUTION - Dopamine is susceptible to oxidation and may decompose in solution. It is recommended that solutions are freshly prepared and used promptly. This product is also extremely hygroscopic. **CAUTION** - This product is extremely hygroscopic and we recommend that it is desiccated upon arrival. Standard retail vials are prepared by lyophilisation. The product may appear as a solid, a gel or a film. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved

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:

Castro et al (2013) Striatal neurones have a specific ability to respond to phasic DA release. *J.Physiol.* **591** 3197. PMID: 23551948.

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