

**Product Name:** DMNPE-4 AM-caged-calcium

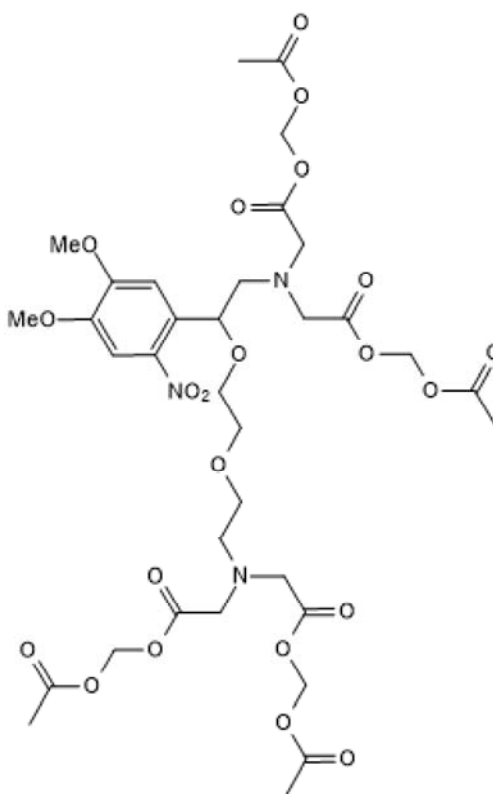
**Catalog No.:** 5948

**Batch No.:** 1

**IUPAC Name:** *Bis*(acetoxymethyl) 3,12-*bis*(2-(acetoxymethoxy)-2-oxoethyl)-5-(4,5-dimethoxy-2-nitrophenyl)-6,9-dioxa-3,12-diazatetradecane-1,14-dioate

## 1. PHYSICAL AND CHEMICAL PROPERTIES

<b>Batch Molecular Formula:</b>	C <sub>34</sub> H <sub>47</sub> N <sub>3</sub> O <sub>22</sub>
<b>Batch Molecular Weight:</b>	849.74
<b>Physical Appearance:</b>	Yellow oil
<b>Solubility:</b>	DMSO to 100 mM
<b>Storage:</b>	Store at -20°C
<b>Batch Molecular Structure:</b>	



## 2. ANALYTICAL DATA

<b>TLC:</b>	R <sub>f</sub> = 0.4 (Neat EtOAc)
<b>HPLC:</b>	Shows 95.6% purity
<b><sup>1</sup>H NMR:</b>	Consistent with structure
<b>Mass Spectrum:</b>	Consistent with structure

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

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**Description:**

Caged calcium ( $K_d$  values are 48 and 19 nM at pH 7.2 and 7.4, respectively;  $K_d$  after uncaging = 2 mM). Selective over  $Mg^{2+}$  ( $K_d$  = 10 mM). Rapid and efficient calcium release upon photolysis at 350 nm. Can also be used for two-photon uncaging. Extinction coefficient of 5120  $M^{-1} cm^{-1}$ , quantum yield 0.09. Cell permeable.

**Physical and Chemical Properties:**

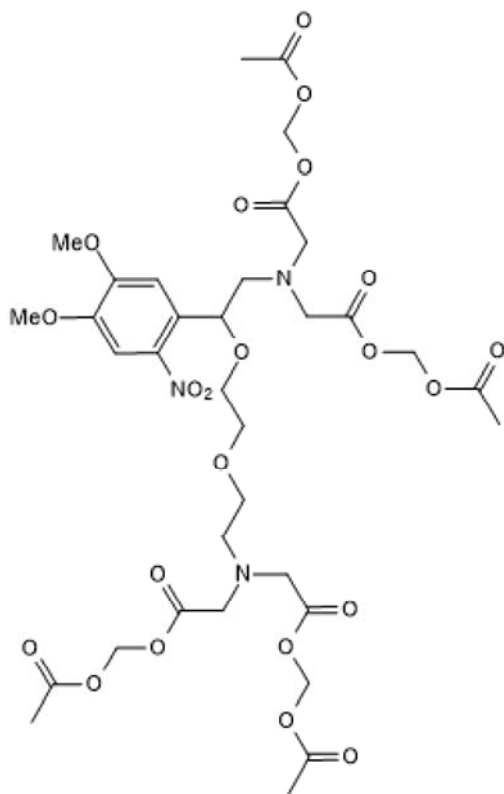
Batch Molecular Formula:  $C_{34}H_{47}N_3O_{22}$

Batch Molecular Weight: 849.74

Physical Appearance: Yellow oil

**Minimum Purity:**  $\geq 95\%$

**Batch Molecular Structure:**



**Storage:** Store at  $-20^{\circ}C$

**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

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a  $45-60^{\circ}C$  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  $-20^{\circ}C$  or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Wang et al** (2015) Spontaneous activity of cochlear hair cells triggered by fluid secretion mechanism in adjacent support cells *Cell* **163** 1348. PMID: 26627734.

**Gordon et al** (2008) Brain metabolism dictates the polarity of astrocyte control over arterioles. *Nature* **456** 745. PMID: 18971930.

**Ellis-Davies et al** (2006) Tuning caged calcium: photolabile analogues of EGTA with improved optical and chelation properties. *Cell Calcium* **39** 75. PMID: 16363177.

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