bio-techne
TOCRIS

Print Date: Nov 11th 2024

Certificate of Analysis

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Product Name: **ING-2 AM** **Catalog No.: 7870** **Batch No.: 1**

CAS Number: 1642554-49-1

IUPAC Name: Bis(acetoxymethyl) 3,3'-(6-(acetoxymethoxy)-4,5-dichloro-9-(3-methoxy-4-(13-(2-methoxy-4-methylphenyl)-1,4,10-trioxa-7,13-diazacyclopentadecan-7-yl)phenyl)-3-oxo-3*H*-xanthene-2,7-diyl)dipropionate

1. PHYSICAL AND CHEMICAL PROPERTIES

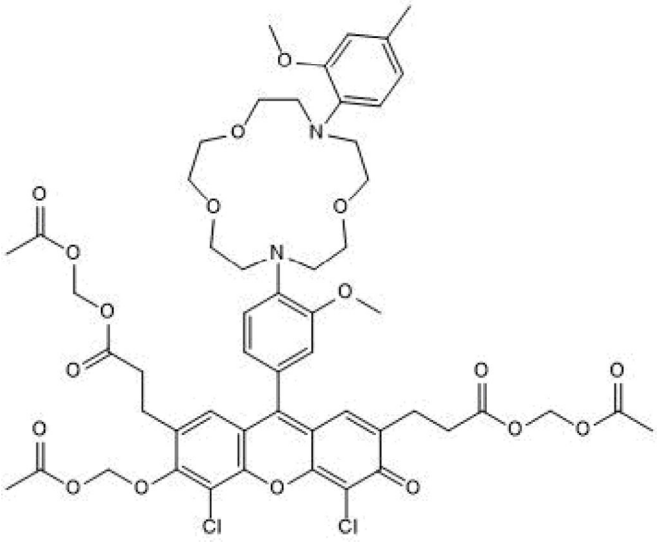
Batch Molecular Formula: $C_{53}H_{60}Cl_2N_2O_{18}$

Batch Molecular Weight: 1083.96

Physical Appearance: Dark red lyophilised solid

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 93.7% purity at 254 nm

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 518 nm (140 mM NaCl in MOPS)

λ_{em}: 539 nm (140 mM NaCl in MOPS)

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

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Description:

ING-2 AM is a membrane-permeable fluorescent sodium ion (Na^+) indicator. It binds to sodium (K_d = 20 mM). Excitation and emission maxima (λ) are 525 and 545 nm, respectively. It displays 20-fold selectivity over K^+ ions. It is used in in vitro and in situ to detect real-time sodium influx. It is recommended to prepare stock solutions in DMSO.

Physical and Chemical Properties:

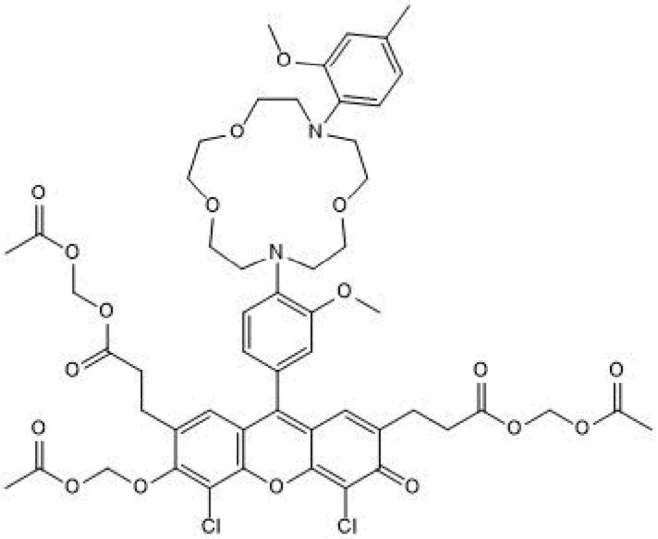
Batch Molecular Formula: $C_{53}H_{60}Cl_2N_2O_{18}$

Batch Molecular Weight: 1083.96

Physical Appearance: Dark red lyophilised solid

Minimum Purity: ≥90%

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:

This product is supplied in lyophilized form. It may appear as a solid, gel or film and be very hard to visualize. 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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Blömer *et al* (2021) Ultrafast sodium imaging of the axon initial segment of neurons in mouse brain slices. Curr.Protoc. ***1*** e64. PMID: 33657273.

Gregoriades *et al* (2019) Genetic and pharmacological inactivation of apical Na^+-K^+-$2Cl^-$ cotransporter 1 in choroid plexus epithelial cells reveals the physiological function of the cotransporter. Am.J.Physiol.Cell Physiol. ***316*** C525. PMID: 30576237.

Naumann *et al* (2018) Photophysical properties of Na^+ -indicator dyes suitable for quantitative two-photon fluorescence-lifetime measurements. J.Microsc. ***272*** 136. PMID: 30191999.