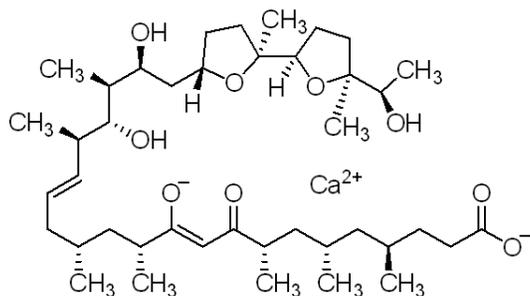


Product Information

Ionomycin calcium salt from *Streptomyces globatus*

Catalog Number **I0634**
Storage Temperature 2–8 °C

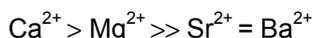
CAS RN: 56092-82-1
Synonym: Calcium Ionomycin



Product Description

Molecular formula: C₄₁H₇₀O₉Ca
Formula weight: 747.07

Calcium Ionomycin is a polyether antibiotic produced by *Streptomyces globatus* (ATCC 31005). Calcium Ionomycin is capable of extracting Ca²⁺ and other divalent cations from an aqueous into an organic phase. Ion selectivity is as follows:



Binding of Sr²⁺ and Ba²⁺ is insignificant and binding to monovalent cations or rubidium is negligible. La²⁺ is also bound to some extent. Complexation with a cation is always in a 1:1 stoichiometry and pH dependent. Essentially no binding of Ca²⁺ occurs below pH 7.0 and maximum binding takes place at pH 9.5.¹

Since the calcium salt of ionomycin is an effective mobile Ca²⁺ carrier, it has significant advantages for use in studies of Ca²⁺ transport across biological membranes.² It is also used to equilibrate intracellular and extracellular calcium ion levels for *in situ* calibrations of fluorescent indicators.³ The resultant calcium flux leads to several downstream effects, such as up-regulation of CD7 in T cells (signal of activation),⁴ or the hydrolysis of phosphoinositides and activation of Protein Kinase C in T cells.⁵ It was found to have antiproliferative effects on human bladder cancer cells both *in vitro* and *in vivo*.⁶

Calcium Ionomycin can serve as an inducer of apoptosis,⁷ which was suggested to act by activation of a latent, calcium-responsive endonuclease.⁸

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices

Preparation Instructions

Calcium Ionomycin has been reported to be soluble in acetone, benzene, hexane, methanol, and ethanol; insoluble in water, dilute acids and bases.⁹

The product is soluble in chloroform and DMSO (10 mg/ml), yielding a clear, colorless solution.

Storage/Stability

Store the powdered ionomycin product desiccated and protected from light at 2–8 °C. Under these conditions the product is stable for 3 years.

Stock solutions in ethanol or DMSO, stored at –20 °C and protected from light, are stable for several months.⁹ For short-term use up to 6 weeks, the stock solutions in ethanol or DMSO may be stored at 2–8 °C protected from light.

References

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