

FT-53989A

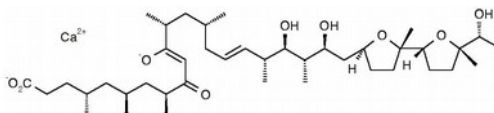


Ionomycin

A potent and selective calcium ionophore

Product Information

Name :	Ionomycin, calcium salt	Ionomycin, free acid
Catalog Number :	FP-53989A, 1 mg FP-53989B, 5 mg FP-53989C, 10 mg FP-53989D, 25 mg	FP-779011 , 1 mg
Structure :	C ₄₁ H ₇₀ CaO ₉ - CAS [56092-82-1]	C ₄₁ H ₇₂ O ₉ -CAS [56092-81-0]
Molecular Weight :	MW= 747.09	MW= 709.03
Absorption / Emission :	Solubility: DMSO and ethanol	Solubility: DMSO and methanol
EC (M⁻¹ cm⁻¹) :	$\lambda_{exc}/\lambda_{em} = 300 \text{ nm/negligible}$ 22 000	$\lambda_{exc}/\lambda_{em} = 300 \text{ nm/negligible}$ 22 000



WARNING ! Toxic. LD50 of < 500 mg / kg.
May be Carcinogenic / Teratogenic. Protect from Light.

Storage: -20°C recommended. Protect from light and moisture

Introduction

Ionomycin is extracted from *Streptomyces conglobatus*.

Ionomycin Calcium salt is an antibiotic that acts as a potent and selective calcium ionophore; more effective than A23187. It is commonly used both to modify intracellular Ca²⁺ concentrations and to calibrate fluorescent Ca²⁺ indicators. Ionomycin binds Ca²⁺ in the 7.0-9.5 pH range with the resulting complex exhibiting intense UV absorption. (Liu, 1978; Kauffman, 1980)

Ionomycin also transports other ions (Pb²⁺ and some other divalent cations, several lanthanide trivalent cations).

Ionomycin induces apoptosis in immature B cell lines, for example, in Burkitt lymphoma cells, and in cultured embryonic rat cortical neurons. More mature B cell lines do not undergo apoptosis, but are arrested in the G1 phase of the cell cycle (Takei, 1994; Aagaard, 1995).

References

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- **Finkel T., et al.,** Priming of neutrophils and macrophages for enhanced release of superoxide anion by the calcium ionophore ionomycin. Implications for regulation of the respiratory burst, *J. Biol. Chem.*, 262: 12589 - 12596 (1987) [Article](#)
- **Gackière F. et al.,** CaV3.2 T-type calcium channels are involved in calcium-dependent secretion of neuroendocrine prostate cancer cells, *J. Biol. Chem.*, 10.1074 (2008) [Article](#)
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- **Kauffman R., et al.** "Cation transport and specificity of ionomycin. Comparison with ionophore A23187 in rat liver mitochondria." *J. Biol. Chem.* **255**: 2735-2739 (1980).
- **Liu, C. and Hermann T.** "Characterization of ionomycin as a calcium ionophore." *J. Biol. Chem.* **253**: 5892-5894 (1978) [Article](#)
- **Takei N. and Endo Y.** "Ca²⁺ ionophore-induced apoptosis on cultured embryonic rat cortical neurons." *Brain Res.* **652**: 65-70 (1994).

Related products

- Fluo-8 NW, [CJ2560](#)
- Rhod-4 AM, [CQ6061](#)
- Phorbol-12-Myristate-13-Acetate, [231451](#)

Ordering information

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