

# PRODUCT INFORMATION



## Ionomycin (calcium salt)

Item No. 11932

CAS Registry No.: 56092-82-1  
Formal Name: 11,19R,21S-trihydroxy-4R,6S,8S,12R,14R,18R,20S-heptamethyl-22-[octahydro-5'S-[1R-hydroxyethyl]-2S,5'-dimethyl[2,2'R-bifuran]-5S-yl]-9-oxo-10Z,16E docosadienoic acid, calcium salt

MF:  $C_{41}H_{70}O_9 \cdot Ca$   
FW: 747.1

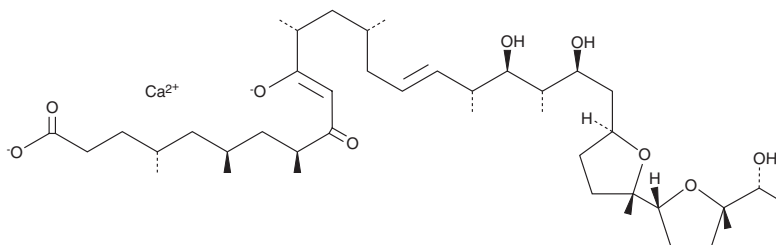
Purity:  $\geq 98\%$

UV/Vis.:  $\lambda_{max}$ : 296 nm

Supplied as: A crystalline solid

Storage:  $-20^{\circ}C$

Stability:  $\geq 2$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Iononycin (calcium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the ionomycin (calcium salt) in the solvent of choice. Iononycin (calcium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of ionomycin (calcium salt) in these solvents is approximately 20, 1.6, and 1.2 mg/ml, respectively.

Iononycin (calcium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, ionomycin (calcium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Iononycin (calcium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Iononycin is a calcium ionophore originally isolated from *S. conglobatus*.<sup>1</sup> It induces intracellular calcium mobilization in *X. laevis* oocytes when used at a concentration of 5  $\mu$ M. Iononycin (5  $\mu$ M) induces the formation of neutrophil extracellular traps (NETs) in isolated human neutrophils.<sup>2</sup> Iononycin in combination with phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) has commonly been used to induce the proliferation and activation of T cells, as well as to stimulate cytokine production in macrophages, *in vitro*.<sup>3,4</sup>

### References

1. Liu, W.-C., Slusarchyk, D.S., Astle, G., *et al.* Iononycin, a new polyether antibiotic. *J. Antibiot.* **31(9)**, 815-819 (1978).
2. Locke, M., Francis, R.J., Tsaousi, E., *et al.* Fibrinogen protects neutrophils from the cytotoxic effects of histones and delays neutrophil extracellular trap formation induced by iononycin. *Sci. Rep.* **10(1)**, 11694 (2020).
3. Lehnert, C., Weiswange, M., Jeremias, I., *et al.* TRAIL-receptor costimulation inhibits proximal TCR signaling and suppresses human T cell activation and proliferation. *J. Immunol.* **193(8)**, 4021-4031 (2014).
4. Foey, A.D. and Brennan, F.M. Conventional protein kinase C and atypical protein kinase C $\zeta$  differentially regulate macrophage production of tumour necrosis factor- $\alpha$  and interleukin-10. *Immunology* **112(1)**, 44-53 (2004).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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