

Ionomycin

Cat. #: I-700

Origin: Isolated from *Streptomyces conglobatus*.

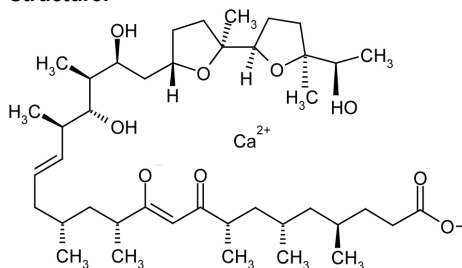
Source description: Natural.

M.W.: 747.08 daltons.

Purity: >98%.

Effective concentration: 100 nM - 2 μ M.

Structure:



Chemical name: (4R,6S,8S,10Z,12R,14R,16E,18R,19R,20S,21S)-11,19,21-Tri hydroxy-4,6,8,12,14,18,20-heptamethyl-22-[(2S,2'R,5S,5' S)-octahydro-5'-[(1R)-1-hydroxyethyl]-2,5'-dimethyl[2,2'-bifuran]-5-yl]-9-oxo-10,16-docosadienoic acid calcium salt.

Molecular formula: C₄₁H₇₀O₉Ca.

CAS No.: 56092-82-1.

Activity: Ionomycin is a narrow spectrum antibiotic for gram-positive bacteria^{1,2}. In mammalian cells, Ionomycin acts as a selective Ca²⁺ ionophore³. In addition, Ionomycin induces hydrolysis of phosphoinositides, activation of PKC in human T cells as well as apoptosis in various cell lines⁴⁻⁶.

References:

1. Liu, W.C. *et al.* (1978) *J. Antibiot.* (Tokyo) **31**, 815.
2. Liu, C.M. *et al.* (1978) *J. Biol. Chem.* **253**, 5892.
3. Kauffman, R.F. (1980) *J. Biol. Chem.* **255**, 2735.
4. Chatila, T *et al.* (1989) *J. Biol. Immunol.* **143**, 41283.
5. Takei, N. *et al.* (1994) *Brain Res.* **652**, 65.
6. Aagaard-Tillery, K.M. *et al.* (1995) *J. Immunol.* **155**, 3297.

Sizes: 1 mg, 5 x 1 mg, 5 mg or 10 x 0.1 mg lyophilized powder.

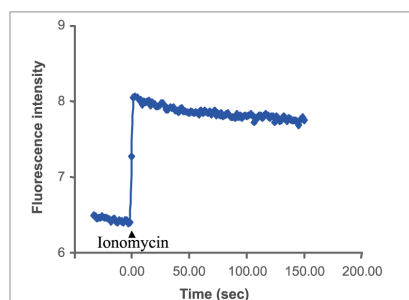
Storage before reconstitution: Lyophilized powder can be stored intact at room temperature for several weeks. For longer periods, it should be stored at -20°C.

Reconstitution: DMSO or Methanol. Centrifuge all product preparations before use (10000 x g 5 min).

Storage and stability after reconstitution: Up to two week at 4°C or three months at -20°C.

Protect from light.

Bioassay: Ionomycin induces cytosolic Ca²⁺ increase.



Ca²⁺ traces from Fluo-3 AM loaded C6 glioma cells treated with 1 μ M Ionomycin (#I-700).

For research purposes only, not for human use.
Last Update: February, 2010.