



Ionomycin Calcium

Data Sheet

Catalog Number: MC11071

Product Type: Small Molecule

Bio-Activity: Ca²⁺ ionophore

CAS #: 56092-82-1

Research Categories: Cell death, cellular stress, cancer, infectious disease

Chemical Name: Fermentation product from *Streptomyces conglobatus*

Solubility: Soluble in DMSO DMSO (10 mg/ml); or Ethanol (30 mg/ml).

Molecular Formula: C₄₁H₇₀O₉ • Ca

Purity: > 99%

Molecular Weight: 747.1

Format: Powder

Ship Temp: Ambient

Storage: -20°C

Application Notes

Description/Data:

Highly selective nonfluorescent calcium (Ca²⁺) ionophore [1]. In human neutrophils it induces a rapid rise in cytosolic Ca²⁺ which is due to both release from cytosolic Ca²⁺ stores as well as Ca²⁺ influx [2]. It activates (2 μM) and primes (20-200 nM) neutrophil NADPH oxidase [2]. Down regulates beta-catenin/Tcf signaling in a colon cancer cell line via suppressing the binding of Tcf to its specific DNA-binding site [3]. In rat hepatoma cells, sub-lethal ionomycin activates the stress response by activating SAPK/JNK and HSF/HSE interaction leading to upregulation of HSP70 biosynthesis [4].

References:

- 1) RF Kaufmann et al. J. Biol. Chem. 1980 255:2735
- 2) DJ Elzi et al. Am. J. Physiol. Cell Physiol. 2001 281:C350
- 3) CH Park et al. Carcinogenesis 2005 26:1929
- 4) AS Sreedhar and UK Srinivas J. Cell Biochem. 2002 86:154

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