



# Ionomycin Calcium

# Data Sheet

**Catalog Number:** MC11071

**Product Type:** Small Molecule

**Bio-Activity:** Ca<sup>2+</sup> 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 (10 mg/ml); or Ethanol (30 mg/ml).

**Molecular Formula:** C<sub>41</sub>H<sub>70</sub>O<sub>9</sub> • Ca

**Purity:** > 99%

**Molecular Weight:** 747.1

**Format:** Powder

**Ship Temp:** Ambient

**Storage:** -20°C

## Application Notes

### Description/Data:

Highly selective nonfluorescent calcium (Ca<sup>2+</sup>) ionophore [1]. In human neutrophils it induces a rapid rise in cytosolic Ca<sup>2+</sup> which is due to both release from cytosolic Ca<sup>2+</sup> stores as well as Ca<sup>2+</sup> influx [2]. It activates (2 nM) 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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