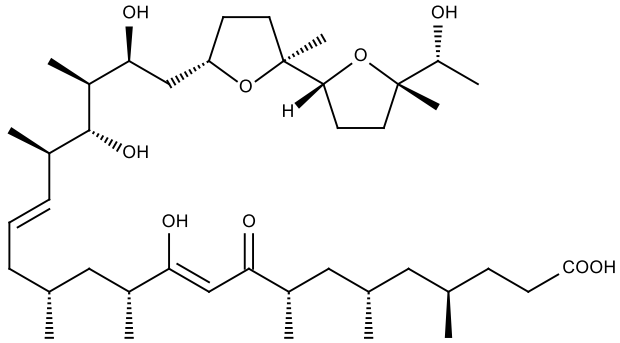
Catalog # 10-2079
Ionomycin

CAS# 56092-81-0

Fermentation product from *Streptomyces conglobatus*

Lot # X101219B



Highly selective nonfluorescent calcium (Ca^{2+}) ionophore.[1] Induces a rapid rise in cytosolic Ca^{2+} in human neutrophils which is due to both release from cytosolic Ca^{2+} stores as well as Ca^{2+} 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]

1) Kaufmann et al., (1980) *Cation transport and specificity of ionomycin. Comparison with ionophore A23187 in rat liver mitochondria;* J. Biol. Chem. **255** 2735
2) Elzi *et al*., (2001) *Inonmycin causes actiivation of p38 and p42/44 mitogen-activated protein kinases in human neutrophils;* Am. J. Physiol. Cell Physiol. **281** C350
3) Partk *et al.,* (2005) *Ionomycin downregulates beta-catenin/tcf signaling in colon cancer cell line*; Carcinogenesis, **26** 1929
4) Sreedhar and Srinivas (2002) *Activation of stress response by ionomycin in rat hepatoma cells*; J. Cell Biochem., **86** 154

PHYSICAL DATA

Molecular Weight:	709.01
Molecular Formula:	$C_{41}H_{72}O_9$
Purity:	>98% by TLC (20% CH_3OH in EtOAc) NMR: (Conforms)
Solubility:	DMSO (up to 10 mg/ml) or in Ethanol (up to 10 mg/mL)
Physical Description:	Yellow oil or waxy solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 1 year from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 3 months.

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