Product Information

- Name: Ionomycin (SQ23377)
- CAS No. : 56092-81-0
- Molecular Weight: 709.01 g/mol
- Formula: $C_{41}H_{72}O_9$
- Appearance: Colorless to light yellow liquid
- Source: Produced by Streptomyces conglobatus.

Biological Activity

- Target and Mechanism: A potent, selective calcium ionophore and antibiotic. It is highly specific for divalent cations with selectivity order: Ca^{2+} > Mg^{2+} > Sr^{2+} = Ba^{2+}. It promotes apoptosis and induces the activation of protein kinase C (PKC).
- Intracellular calcium increase: Used at concentrations such as 2 μM to transiently increase intracellular Ca^{2+}.
- T cell activation: Commonly used in combination with PMA (e.g., 1 μM Ionomycin + PMA) for T cell stimulation.
- Positive control: Used at 10 μM as a positive control in calcium-related assays (e.g., quenching mitochondrial calcein fluorescence).
- Flow cytometry: Used at 500 ng/mL in combination with PMA and BFA for intracellular cytokine staining.

Handling and Storage

- Format: Supplied as a solution at 14.1 mM in anhydrous ethanol.
- Storage: Store the solution at -20°C for up to 2 years. Protect from light.

Precautions

- This product is for research use only and must not be used for clinical diagnosis or treatment.
- Ionomycin is a potent bioactive compound. Always wear appropriate personal protective equipment (gloves, lab coat) and handle it in a fume hood. Follow standard laboratory safety regulations for chemical handling and waste disposal.
- As the product is supplied as a solution in ethanol, be mindful of the final ethanol concentration in your experiments, especially in cell-based assays (keep it low to avoid cytotoxicity).