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DATASHEET

lonomycin calcium salt

Product overview

| | |
|--------------------------|--|
| Name | lonomycin calcium salt |
| Cat No | HB1001 |
| Purity | >98% |
| Customer comments | <i>lonomycin calcium salt does what it should. This was my first time buying a product from Hello Bio. I am pleased with their customer service and follow up. The product was delivered in a relatively short time as estimated. The product dose causes the intracellular calcium to be released as expected. Overall experience with Hello Bio was good. Verified customer, UEA: University of East Anglia)</i> |
| Description | Calcium ionophore. Stimulates cytokine production. |

Images



Biological Data

Biological description lonomycin calcium salt is a potent calcium ionophore which shows selectivity for Ca^{2+} over Mg^{2+} and K^+ . It acts as a Ca^{2+} carrier and is the calcium salt of [lonomycin](#).

lonomycin directly stimulates store-regulated cation entry across biological membranes to enhance Ca^{2+} influx and increase intracellular Ca^{2+} concentration.

lonomycin also synergies with [phorbol myristate acetate](#) (PMA) to enhance activation of PKC and is frequently used in combination with PMA to stimulate T-cell activation and intracellular production of cytokines.

lonomycin also induces apoptosis.

[Calcium ionophore A23187](#) also available.

Solubility & Handling

| | |
|-----------------------------|---|
| Storage instructions | -20 °C |
| Solubility overview | Soluble in ethanol (100 mM) and DMSO (25 mM) |
| Important | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use. |

Chemical Data

| | |
|---------------------------|---|
| Chemical name | (4R,6S,8S,10Z,12R,14R,16E,18R,19R,20S,21S)-11,19,21-Trihydroxy-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 Weight | 747.08 |
| Chemical structure | |
| Molecular Formula | C ₄₁ H ₇₀ CaO ₉ |
| CAS Number | 56092-82-1 |
| PubChem identifier | 6446270 |
| SMILES | <chem>C[C@H](CCC(=O)[O-])C[C@H](C)C[C@H](C)C(=O)/C=C/[C@H](C)C[C@H](C)C/C=C/[C@@H](C)[C@H]([C@@H](C)[C@H](C[C@@H]1CC[C@@](O1)(C)[C@H]2CC[C@@](O2)(C)[C@@H](C)O)O)[O-].[Ca+2]</chem> |
| InChi | InChI=1S/C41H72O9.Ca/c1-25(21-29(5)34(43)24-35(44)30(6)22-27(3)20-26(2)14-15-38(46)47)12-11-13-28(4)39(48)31(7)36(45)23-33-16-18-41(10,49-33)37-17-19-40(9,50-37)32(8)42;/h11,13,24-33,36-37,39,42-43,45,48H,12,14-23H2,1-10H3,(H,46,47);/q;+2/p-2/b13-11+,34-2 |
| InChiKey | WKRWUYKLUMMAKG-WYGBAUSSA-L |
| MDL number | MFCD00083634 |
| Appearance | White to off-white |

References

Characterization of ionomycin as a calcium ionophore.

Liu C *et al* (1978) J Biol Chem 253(17)

PubMedID [28319](#)

Cation transport and specificity of ionomycin. Comparison with ionophore A23187 in rat liver mitochondria.

Kauffman RF *et al* (1980) J Biol Chem 255(7)

PubMedID [6766939](#)

PMA and ionomycin induce glioblastoma cell death: activation-induced cell-death-like phenomena occur in glioma cells.

Han S *et al* (2013) PLoS One 8(10)

PubMedID [24130787](#)