Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

DATASHEET

Ionomycin calcium salt

Product overview

Name	Ionomycin calcium salt
Cat No	HB1001
Purity	>98%
Customer comments	*Ionomycin 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)**
Description	Calcium ionophore. Stimulates cytokine production.

Images

Biological Data

Biological description

Ionomycin 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 ionomycin.

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

Ionomycin 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.

Ionomycin also induces apoptosis.

Calcium ionophore A23187 also available.

Solubility & Handling

Solubility overview	Soluble in ethanol (100 mM) and DMSO (25 mM)
Storage instructions	-20°C
Storage of solutions	Prepare and use solutions on the same day if possible. Store solutions at -20°C for up to one month if storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

Shipping Conditions	Stable for ambient temperature shipping. Follow storage instructions on receipt.
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	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)\[O-].[Ca+2]
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+,34-24
InChiKey	WKRWUYKLUMMAKG-WYGBAUISSA-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