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DATASHEET

Calcium Ionophore A23187

Product overview

Name	Calcium Ionophore A23187
Cat No	HB1000
Description	Non-selective calcium ionophore
Alternative names	Calcimycin
Biological action	Ionophore
Purity	>98%

Biological Data

Biological description

Non-selective calcium ionophore which facilitates transport of Ca^{2+} across the plasma membrane.

Increases intracellular Ca^{2+} concentration to induce Ca^{2+}-dependent cell death. Also increases Zn^{2+} and Fe^{2+} permeability across the cell membrane.

Induces ROS and oxidative platelet particle formation.

Also activates IKK2 and NF-κB in mast cells, induces cytokine production and degranulation.

Additionally shown to induce apoptosis and autophagy.

Solubility & Handling

Storage instructions	+4°C (desiccate)
Solubility overview	Soluble in DMSO (50mM) and in ethanol (10mM, gentle warming)
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

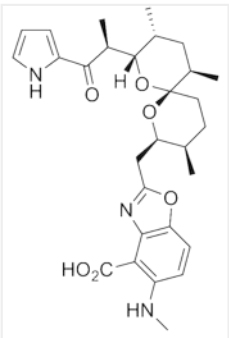
Chemical name

5-(Methylamino)-2-[[2*R*,3*R*,6*S*,8*S*,9*R*,11*R*)-3,9,11-trimethyl-8-[(1*S*)-1-methyl-2-oxo-2-(1*H*-pyrrol-2-yl)-ethyl]-1,7-dioxaspiro[5.5]undec-2-yl]methyl]-4-benzoxazolecarboxylic acid

Molecular Weight

523.63

Chemical structure



Molecular Formula

$C_{29}H_{37}N_3O_6$

CAS Number

52665-69-7

PubChem identifier	40486
SMILES	C[C@H]1CCC2([C@@H](C[C@H]([C@H](O2)C(C)C(=O)C3=CC=CN3)C)C)O[C@H]1CC4=NC5=C(O4)C=CC(=C5C(=O)O)NC
InChi	InChI=1S/C29H37N3O6/c1-15-10-11-29(17(3)13-16(2)27(38-29)18(4)26(33)20-7-6-12-31-20)37-22(15)14-23-32-25-21(36-23)9-8-19(30-5)24(25)28(34)35/h6-9,12,15-18,22,27,30-31H,10-11,13-14H2,1-5H3,(H,34,35)/t15-,16+,17+,18?,22-,27-,29?/m0/s1
InChiKey	HIYAVKIYRIFSCZ-CVXKHCKVSA-N
MDL number	MFCD00151202

References

Zn(2+), derived from cell preparation, partly attenuates Ca(2+)-dependent cell death induced by A23187, calcium ionophore, in rat thymocytes.

Sakanashi Y *et al* (2009) Toxicol In Vitro 23(2)
PubMedID 19124067

Platelet particle formation by anti GPIIIa49-66 Ab, Ca2+ ionophore A23187, and phorbol myristate acetate is induced by reactive oxygen species and inhibited by Dex blockade of platelet phospholipase A2, 12-lipoxygenase, and NADPH oxidase.

Nardi MA *et al* (2007) Blood 110(6)
PubMedID 17545506

Role of calcium ionophore A23187-induced activation of IkappaB kinase 2 in mast cells.

Hosokawa J *et al* (2013) Int Arch Allergy Immunol 161 Suppl 2
PubMedID 23711852