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DATASHEET

Calcium Ionophore A23187

Product overview

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

Images



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- κ B in mast cells, induces cytokine production and degranulation. Additionally shown to induce apoptosis and autophagy.
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Solubility & Handling

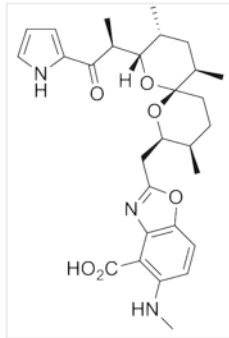
Storage instructions	+4 °C (desiccate)
Solubility overview	Soluble in DMSO (50mM) and in ethanol (10mM, gentle warming)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	5-(Methylamino)-2-[[2 <i>R</i> ,3 <i>R</i> ,6 <i>S</i> ,8 <i>S</i> ,9 <i>R</i> ,11 <i>R</i>]-3,9,11-trimethyl-8-[(1 <i>S</i>)-1-methyl-2-oxo-2-(1 <i>H</i> -pyr
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Molecular Weight
Chemical structure

rol-2-yl)-ethyl]-1,7-dioxaspiro[5.5]undec-2-yl]methyl]-4-benzoxazolecarboxylic acid
523.63



Molecular Formula
CAS Number
PubChem identifier
SMILES

C₂₉H₃₇N₃O₆
52665-69-7
40486
C[C@H]1CCC2([C@@H](C[C@H]([C@H](O2)C(C)=O)C3=CC=CN3)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 GPIIb/IIIa 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 I κ B kinase 2 in mast cells.

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

PubMedID [23711852](#)
