Product data sheet



MedKoo Cat#: 593077				
Name: Lasalocid				
CAS: 25999-31-9 (free)				
Chemical Formula: C ₃₄ H ₅₄ O ₈				
Exact Mass: 590.3819				
Molecular Weight: 590.798				
Product supplied as:	Powder			
Purity (by HPLC):	\geq 98%			
Shipping conditions	Ambient temperature			
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.			
	In solvent: -80°C 3 months; -20°C 2 weeks.			



1. Product description:

Lasalocid is a Cationic ionophore antibiotic.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	100.0	169.26

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.69 mL	8.46 mL	16.93 mL
5 mM	0.34 mL	1.69 mL	3.39 mL
10 mM	0.17 mL	0.85 mL	1.69 mL
50 mM	0.03 mL	0.17 mL	0.34 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Mahtal N, Wu Y, Cintrat JC, Barbier J, Lemichez E, Gillet D. Revisiting Old Ionophore Lasalocid as a Novel Inhibitor of Multiple Toxins. Toxins (Basel). 2020 Jan 1;12(1):26. doi: 10.3390/toxins12010026. PMID: 31906353; PMCID: PMC7020423.

2. Kim KY, Kim SH, Yu SN, Park SG, Kim YW, Nam HW, An HH, Yu HS, Kim YW, Ji JH, Seo YK, Ahn SC. Lasalocid induces cytotoxic apoptosis and cytoprotective autophagy through reactive oxygen species in human prostate cancer PC-3 cells. Biomed Pharmacother. 2017 Apr;88:1016-1024. doi: 10.1016/j.biopha.2017.01.140. Epub 2017 Feb 6. PMID: 28178613.

In vivo study

1. Estrada-Orihuela SF, Ibarra-Pérez C. Lasalocid immediately and completely prevents the myocardial damage caused by coronary ischemia reperfusion in rat heart. Mol Cell Biochem. 2019 Mar;453(1-2):121-130. doi: 10.1007/s11010-018-3437-2. Epub 2018 Sep 6. PMID: 30191481; PMCID: PMC6394521.

7. Bioactivity

Biological target:

Lasalocid (Lasalocid-A; Ionophore X-537A; Antibiotic X-537A) is an antibacterial agent and a coccidiostat, used in the feed additives.

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In vitro activity

Lasalocid protects cells from all toxins tested and impairs the drop of vesicular pH along the trafficking pathways that are required for toxin sorting and translocation to the cytoplasm. Lasalocid also has an impact on the cellular distribution of GOLPH4 and GOLPH2 Golgi markers. Other intracellular trafficking compartments positive for EEA1 and Rab9A display a modified cellular pattern. In conclusion, lasalocid protects cells from multiple deadly bacterial toxins by corrupting vesicular trafficking and Golgi stack homeostasis.

Reference: Toxins (Basel). 2020 Jan 1;12(1):26. https://pubmed.ncbi.nlm.nih.gov/31906353/

In vivo activity

In experiments of coronary blockade and reperfusion carried out in rat heart, it was found that when administered from 5 to 30 minutes prior to the induction of coronary blockade, at a concentration of 2 mg/kg of body weight, the ionophore (lasalocid) immediately, simultaneously, and completely interrupts the blood pressure decay, cardiac frequency increase, electrical ventricular tachycardia and fibrillation, as well as the fall of mitochondrial oxidative phosphorylation and decay of mitochondrial oxygen uptake provoked by the induced myocardial injury.

Reference: Mol Cell Biochem. 2019 Mar;453(1-2):121-130. https://pubmed.ncbi.nlm.nih.gov/30191481/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.