**Product Name:** Lasalocid sodium

**Product Number:** L026

**CAS Number:** 25999-20-6

**Molecular Formula:** C\textsubscript{34}H\textsubscript{53}NaO\textsubscript{8}

**Molecular Weight:** 612.8

**Form:** solid

**Appearance:** White solid

**Solubility:** soluble in ethanol, methanol, DMF and DMSO. Limited water solubility.

**Source:** Synthetic; originally derived from Streptomyces lasaliensis

**Storage Conditions:** -20°C

**Description:** Lasalocid Sodium is the salt form of the carboxylic polyether ionophore. The compound has anticancer properties, and antibacterial activity. It is also known as a coccidiostat, developed for treatment of coccidia in animals and it thus stops coccidia from reproducing.

Lasalocid Sodium is soluble in ethanol, methanol, DMF and DMSO. It has limited solubility in water.

**Mechanism of Action:** As an ionophore, Lasalocid Sodium can increase the permeability of biological (or artificial) lipid membranes to specific ions. It can form complexes with cations and transport through lipid membranes. It can also transport larger organic cations.

In cancer studies, researchers found lasalocid induces autophagy through microtubule-associated protein 1 light chain 3 (LC-3)-II conversion. The autophagic properties were mediated by production of reactive oxygen species, confirmed by using a ROS inhibitor.

**Cancer Applications**

Lasalocid Sodium displays anticancer properties and induces cytotoxic apoptosis and cytoprotective autophagy associated with possible signaling pathways \textit{in vitro} was examined through the study of reactive oxygen species in human prostate cancer PC-3 cells. Lasalocid mediated cell cycle arrest, and it was involved with reactive oxygen species production (Kim K et al, 2017).

Lasalocid acid and its complexes with amines were tested \textit{in vitro} for cytotoxic activity against human cancer cell lines: A-549 (lung), MCF-7 (breast), HT-29 (colon) and mouse cancer cell line P-388 (leukemia). Authors found that Lasalocid and its complexes were strong cytotoxic agents towards all cell lines, thus are promising candidates for anticancer drugs (Hucyński A et al, 2013).
References:


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