

**Product Name:** Azithromycin

**Catalog No.:** 3771

**Batch No.:** 2

CAS Number: 83905-01-5

IUPAC Name: 13-[(2,6-Dideoxy-3-C-methyl-3-O-methyl- $\alpha$ -L-ribo-hexopyranosyl)oxy]-2-ethyl-3,4,10-trihydroxy-3,5,6,8,10,12,14-heptamethyl-11-[[3,4,6-trideoxy-3-(dimethylamino)- $\beta$ -D-xylo-hexopyranosyl]oxy]-1-oxa-6-azacyclopentadecan-15-one

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>38</sub>H<sub>72</sub>N<sub>2</sub>O<sub>12</sub>·2H<sub>2</sub>O

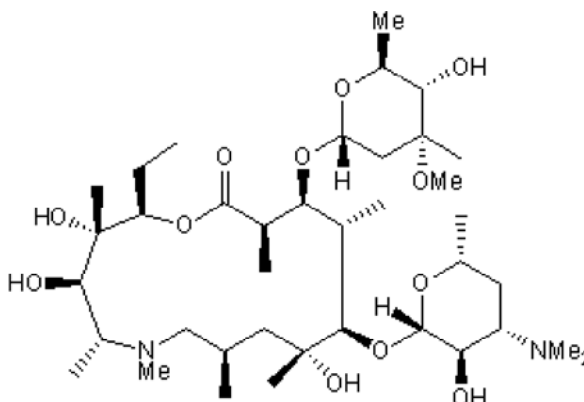
**Batch Molecular Weight:** 785.01

**Physical Appearance:** White solid

**Solubility:** DMSO to 100 mM  
ethanol to 100 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**HPLC:** Shows 100% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Optical Rotation:** [α]<sub>D</sub> = -38 (Concentration = 1, Solvent = chloroform)

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	58.14	9.76	3.57
Found	58.05	9.73	3.67

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Macrolide antibiotic. Inhibits 50S ribosomal subunit formation and elongation at transpeptidation step in gram-positive and gram-negative organisms. Orally active with improved pharmacokinetics over erythromycin in mouse models. Inhibits autophagy. Predicted to disrupt binding of SARS-CoV-2 spike protein to ACE2.

**Physical and Chemical Properties:**

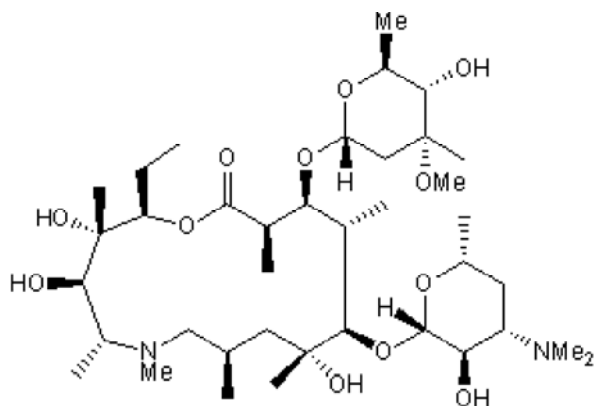
Batch Molecular Formula: C<sub>38</sub>H<sub>72</sub>N<sub>2</sub>O<sub>12</sub>.2H<sub>2</sub>O

Batch Molecular Weight: 785.01

Physical Appearance: White solid

**Minimum Purity:**  $\geq$ 99%

**Batch Molecular Structure:**



**References:**

**Sandeep and McGregor *et al*** (2020) Energetics based modeling of hydroxychloroquine and azithromycin binding to the SARS-CoV-2 spike (S) protein - ACE2 complex. ChemRxiv - Paper not yet peer reviewed..

**Galluzzi *et al*** (2017) Pharmacological modulation of autophagy: therapeutic potential and persisting obstacles. Nat.Rev.Drug.Discov.. PMID: 28529316 .

**Champney and Burdine** (1995) Macrolide antibiotics inhibit 50S ribosomal subunit assembly in *Bacillus subtilis* and *Staphylococcus aureas*. Antimicrob.Agents Chemother. **39** 2141. PMID: 8540733.

**Girard *et al*** (1987) Pharmacokinetic and in vivo studies with azithro. (CP-62,993), a new macrolide with extended half-life and excellent tissue distribution. Antimicrob.Agents Chemother. **31** 1948. PMID: 2830841.

**Retsema *et al*** (1987) Spectrum and mode of action of azithro. (CP-62,993), a new 15-membered-ring macrolide with improved potency against gram-negative organisms. Antimicrob.Agents Chemother. **31** 1939. PMID: 2449865.

**Storage:** Store at -20°C

**Solubility & Usage Info:**

DMSO to 100 mM

ethanol to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**Licensing Information:**

Sold for research purposes under agreement from Pfizer Inc.

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