

## Datasheet

### Azithromycin

Product Name	Azithromycin
Catalogue Number	BSV-S1835
Chemical Formula	C <sub>38</sub> H <sub>72</sub> N <sub>2</sub> O <sub>12</sub>
Function	Autophagy inhibitor
CAS No.:	83905-01-5

### **Description:**

Azithromycin is an antibiotic by inhibiting protein synthesis, used for the treatment of bacterial infections.

### **Product Details:**

**Target:** Protein synthesis

**Chemical name:** (2R,3S,4R,5R,8R,10R,11R,12S,13S,14R)-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

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

**Molecular weight:** 748.98

**Purity:** 100 %

**Solubility:** 100 mg/mL (DMSO), 100 mg/mL (ethanol)

**Storage:** 3 years -20°C powder, 2 years -80°C in solvent

**Regulatory/ Restrictions:** For laboratory use only.

### **Biological Activity:**

#### **In vitro:**

Azithromycin reduces about 40% of IL-8 mRNA and protein expression in cystic fibrosis (CF) cells reaching the levels of non-CF cells. Azithromycin results in 50% and 70% reduction of NF-

kappaB and AP-1 DNA binding, respectively, leading to levels of non-CF cells. [1] Azithromycin significantly enhances the intensity of a co-stimulatory molecule, CD80, on DCs but not CD86 and CD40 in dendritic cells (DCs). Azithromycin significantly increases the production of IL-10 and Clarithromycin (CAM) significantly inhibits the production of IL-6 by DCs. Azithromycin increases IL-10 and CAM decreases IL-2 productions significantly, when naive T cells derived from spleen are co-cultured with DCs treated in advance with LPS and these macrolides. [2] Azithromycin selectively inhibits fluid-phase endocytosis of horseradish peroxidase and lucifer yellow in J774 mouse macrophages. Azithromycin delays sequestration of receptor-bound transferrin and peroxidase-anti-peroxidase immune complexes into cell-surface endocytic pits and vesicles. Azithromycin down-regulates cell surface transferrin receptors, but not Fc gamma receptors, by causing a major delay in the accessibility of internalized transferrin receptors to the recycling route, without slowing down subsequent efflux, resulting in redistribution of the surface pool to an intracellular pool. [3] Azithromycin inserts into the DOPC lipid bilayer, so as to decrease its cohesion and to facilitate the merging of DPPC into the DOPC fluid matrix. [4]

### Preparing stock solutions

Concentration/ Mass	1 mg	5 mg	10 mg
1 mM	1.3351 mL	6.6757 mL	13.3515 mL
5 mM	0.2670 mL	1.3351 mL	2.6703 mL
10 mM	0.1335 mL	0.6676 mL	1.3351 mL
50 mM	0.0267 mL	0.1335 mL	0.2670 mL

### References:

*References:*

- [\[1\] Cigana C, et al. P Biochem Biophys Res Commun, 2006, 350\(4\), 977-982.](#)
- [\[2\] Sugiyama K, et al. Clin Exp Immunol, 2007, 147\(3\), 540-546.](#)
- [\[3\] Tyteca D, et al. Exp Cell Res, 2002, 281\(1\), 86-100.](#)
- [\[4\] Fa N, et al. Biochim Biophys Acta, 2007, 1768\(7\), 1830-1838.](#)