
Product Data Sheet

Product Name: Azithromycin Dihydrate

Cat. No.: GC11304

Chemical Properties

Cas. No. 117772-70-0

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Formula C₃₈H₇₂N₂O₁₂·2H₂O

M.Wt

785.02

Solubility ≥ 25.85mg/mL in DMSO

Storage

Store at -20°C

General tips

For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Protocol****Cell experiment:**

THP-1 cells (106 cells in 1 mL RPMI medium, without antibiotics, growth factors or serum) are seeded in each well of 24-well plates and allowed to settle for 1 hour. Next, 50 µL of the test compound is added followed by 50 µL of LPS (final concentration of 10 µg/mL). After 24h (37°C and 5% CO₂) the supernatants and cell pellets are collected (1200 rpm, 5 min). THP-1 cell viability is tested using 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT). MTT is dissolved at 2 mg/mL in PBS and aliquots are stored at -20°C. The MTT assay is performed according to the suppliers instructions. Absorbance of MTT converted into formazan is measured at a wavelength of 570 nm with background subtraction at 630 nm.

Caution: Product has not been fully validated for medical applications. For research use only.

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References:

[1]. Menzel M, et al.

Azithromycin

augments

rhinovirus-induced

IFN β via cytosolic

MDA5 in

experimental

models of asthma

exacerbation.

Oncotarget. 2017

Mar 18.

[2]. Vandooren J, et

al. Differential

inhibition of activity,

activation and gene

expression of MMP-9

in THP-1 cells by

azithromycin and

minocycline versus

bortezomib: A

comparative study.

PLoS One. 2017 Apr

3;12(4):e0174853.

Background

Azithromycin hydrate is a macrolide antibiotic useful for the treatment of a number of bacterial infections.

Azithromycin (2 μ M) augments rhinovirus-induced IFN β expression in primary bronchial epithelial cells from asthmatics, which is associated with over-expression of RIG-I like receptors and repression of viral replication. Knockdown of MDA5, but not knockdown of RIG-I, diminishes azithromycin (2 μ M)-enhanced viral-induced IFN β expression in

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asthmatic primary bronchial epithelial cells[1]. Azithromycin specifically reduces MMP-9 mRNA and protein levels without affecting NF- κ B in endotoxin-challenged monocytic THP-1 cells[2].

Azithromycin (50 mg/kg) has no effect on bronchoalveolar lavage inflammatory parameters and LDH levels in a mouse model of asthma exacerbation. Azithromycin induces neither general inflammatory parameters nor LDH release in a mouse model of asthma exacerbation, and augments expression of interferon-stimulated genes and the pattern recognition receptor MDA5 but not RIG-I in exacerbating mice[1].

References:

- [1]. Menzel M, et al. Azithromycin augments rhinovirus-induced IFN β via cytosolic MDA5 in experimental models of asthma exacerbation. *Oncotarget*. 2017 Mar 18.
- [2]. Vandooren J, et al. Differential inhibition of activity, activation and gene expression of MMP-9 in THP-1 cells by azithromycin and minocycline versus bortezomib: A comparative study. *PLoS One*. 2017 Apr 3;12(4):e0174853.

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