

产品名称：阿齐霉素二水合物

产品别名：**Azithromycin (hydrate); CP-62993 dihydrate**

生物活性:	
Description	Azithromycin hydrate is a macrolide antibiotic useful for the treatment of a number of bacterial infections.
In Vitro	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 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].
In Vivo	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. <i>Oncotarget</i> . 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. <i>PLoS One</i> . 2017 Apr 3;12(4):e0174853.
实验参考:	
Cell Assay	THP-1 cells (10^6 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 μ L of the test compound is added followed by 50 μ L of LPS (final concentration of 10 μ g/mL). After 24h (37°C and 5% CO $_2$) 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. [2]
References	[1]. Menzel M, et al. Azithromycin augments rhinovirus-induced IFN β via cytosolic MDA5 in experimental models of asthma exacerbation. <i>Oncotarget</i> . 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. <i>PLoS One</i> . 2017 Apr 3;12(4):e0174853.