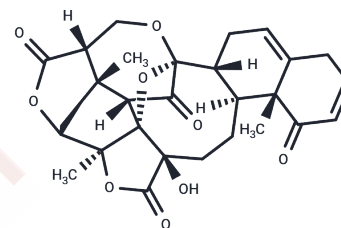


Physalin B

Chemical Properties

CAS No. :	23133-56-4
Formula:	C ₂₈ H ₃₀ O ₉
Molecular Weight:	510.53
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Physalin B is one of the major active compounds from the Solanaceae family of plants and has a wide range of biological activities for the treatment of inflammatory eczema and herpes, among other diseases. Physalin B ameliorates lipopolysaccharide-induced inflammatory response due to acute lung injury by inhibiting NF-κB and NLRP3 through activation of the PI3K/Akt pathway. Physalin B inhibits PDGF-BB-induced VSMC proliferation and migration and phenotypic transformation through activation of the Nrf2 pathway. Physalin B inhibits PDGF-BB-induced VSMC proliferation, migration and phenotypic transformation through activation of the Nrf2 pathway. Physalin B exerts antitumor activity by inhibiting LAP2α-HDAC1-mediated deacetylation of glioma-associated oncogene 1 and hepatic stellate cell activation.
Targets(IC50)	Apoptosis, NF-κB, Akt, Nrf2, NOD, Autophagy, PI3K
In vitro	Physalin B inhibited the viability of HCT116 cells with an IC ₅₀ value of 1.35 μmol/L. Treatment of the cells with physalin B (2.5-10 μmol/L) induced apoptosis and the cleavage of PARP and caspase-3. Meanwhile, physalin B treatment induced autophagosome formation, and accumulation of LC3-II and p62, but decreased Beclin 1 protein level. Marked changes of microtubules and F-actin microfilaments were observed in physalin B-treated cells, which led to the blockage of co-localization of autophagosomes and lysosomes. Physalin B treatment dose-dependently increased the phosphorylation of p38, ERK, and JNK in the cells, whereas the p38 inhibitor SB202190, ERK inhibitor U0126, or JNK inhibitor SP600125 could partially reduce physalin B-induced PARP cleavage and p62 accumulation. Moreover, physalin B treatment dose-dependently increased mito-ROS production in the cells, whereas the ROS scavenger NAC could reverse physalin B-induced effects, including incomplete autophagic response, accumulation of ubiquitinated proteins, changes of microtubules and F-actin, activation of p38, ERK and JNK, as well as cell death and apoptosis. Physalin B induces mito-ROS, which not only inhibits the ubiquitin-proteasome pathway but also induces an incomplete autophagic response in HCT116 cells in vitro.[2]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9587 mL	9.7937 mL	19.5875 mL
5 mM	0.3917 mL	1.9587 mL	3.9175 mL
10 mM	0.1959 mL	0.9794 mL	1.9587 mL
50 mM	0.0392 mL	0.1959 mL	0.3917 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Sá MS, et al. Antimalarial activity of physalins B, D, F, and G. *J Nat Prod.* 2011 Oct 28;74(10):2269-72.

Ma YM, et al. Physalin B not only inhibits the ubiquitin-proteasome pathway but also induces incomplete autophagic response in human colon cancer cells in vitro. *Acta Pharmacol Sin.* 2015 Apr;36(4):517-27.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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