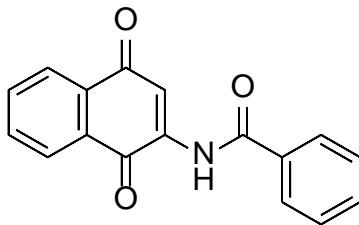


Product data sheet



MedKoo Cat#: 558380 Name: NQN-1 CAS: 65240-86-0 Chemical Formula: C ₁₇ H ₁₁ NO ₃ Exact Mass: 277.0739 Molecular Weight: 277.279		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

NQN-1 is a histone deacetylases-6 (HDAC6) inhibitor and nuclear factor-κB (NF-κB) activation blocker.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	5.0	18.03
DMSO	3.0	10.82

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.61 mL	18.03 mL	36.06 mL
5 mM	0.72 mL	3.61 mL	7.21 mL
10 mM	0.36 mL	1.80 mL	3.61 mL
50 mM	0.07 mL	0.36 mL	0.72 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Lu H, Mei C, Yang L, Zheng J, Tong J, Duan F, Liang H, Hong L. PPM-18, an Analog of Vitamin K, Induces Autophagy and Apoptosis in Bladder Cancer Cells Through ROS and AMPK Signaling Pathways. *Front Pharmacol.* 2021 Jul 9;12:684915. doi: 10.3389/fphar.2021.684915. PMID: 34305598; PMCID: PMC8299005.
2. Yu SM, Wu JF, Lin TL, Kuo SC. Inhibition of nitric oxide synthase expression by PPM-18, a novel anti-inflammatory agent, in vitro and in vivo. *Biochem J.* 1997 Dec 1;328 (Pt 2)(Pt 2):363-9. doi: 10.1042/bj3280363. PMID: 9371689; PMCID: PMC1218929.

In vivo study

1. Lu H, Mei C, Yang L, Zheng J, Tong J, Duan F, Liang H, Hong L. PPM-18, an Analog of Vitamin K, Induces Autophagy and Apoptosis in Bladder Cancer Cells Through ROS and AMPK Signaling Pathways. *Front Pharmacol.* 2021 Jul 9;12:684915. doi: 10.3389/fphar.2021.684915. PMID: 34305598; PMCID: PMC8299005.
2. Yu SM, Wu JF, Lin TL, Kuo SC. Inhibition of nitric oxide synthase expression by PPM-18, a novel anti-inflammatory agent, in vitro and in vivo. *Biochem J.* 1997 Dec 1;328 (Pt 2)(Pt 2):363-9. doi: 10.1042/bj3280363. PMID: 9371689; PMCID: PMC1218929.

7. Bioactivity

Biological target:

PPM-18 (NSC 73233), a potent anti-inflammatory agent, inhibits nitric oxide synthase expression. PPM-18 is a potent inhibitor of iNOS expression by blocking the binding of NF-κB to promoter.

Product data sheet



In vitro activity

This study found that PPM-18 remarkably suppressed the proliferation and induced apoptosis in bladder cancer cells. Furthermore, a significant autophagic effect of PPM-18 on bladder cancer cells was also demonstrated, which profoundly promoted apoptotic cell death. Mechanistically, PPM-18 activated AMP-activated protein kinase (AMPK), whereas it repressed PI3K/AKT and mTORC1 pathways in bladder cancer cells. Inhibition of AMPK markedly relieved PPM-18-induced autophagy and apoptosis, indicating that PPM-18 is able to induce autophagy and apoptosis in bladder cancer cells via AMPK activation.

Reference: Front Pharmacol. 2021 Jul 9;12:684915. <https://pubmed.ncbi.nlm.nih.gov/34305598/>

In vivo activity

This study studied the effect of PPM-18, a chemically synthesized naphthoquinone derivative and also an anti-inflammatory agent, on the lipopolysaccharide (LPS)-activated inducible NO synthase (iNOS) expression in rat alveolar macrophages. PPM-18 protects mice against LPS-induced lethal toxicity. These results also indicate that PPM-18 is a potent inhibitor of iNOS expression by blocking the binding of NF-kappaB to promoter and exerts a beneficial effect in the mouse model of sepsis.

Reference: Biochem J. 1997 Dec 1;328 (Pt 2)(Pt 2):363-9. <https://pubmed.ncbi.nlm.nih.gov/9371689/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.