

Product data sheet



MedKoo Cat#: 318180 Name: Mefenamic Acid CAS: 61-68-7 Chemical Formula: C ₁₅ H ₁₅ NO ₂ Exact Mass: 241.1103 Molecular Weight: 241.29	
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:

Mefenamic Acid is a non-steroidal anti-inflammatory agent with analgesic, anti-inflammatory, and antipyretic properties. It is an inhibitor of cyclooxygenase and has demonstrated antiproliferative activity against colorectal cancer cells.

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
DMSO	74.0	306.68

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.14 mL	20.72 mL	41.44 mL
5 mM	0.83 mL	4.14 mL	8.29 mL
10 mM	0.41 mL	2.07 mL	4.14 mL
50 mM	0.08 mL	0.41 mL	0.83 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. Hashemipour MA, Mehrabizadeh Honarmand H, Falsafi F, Tahmasebi Arashlo M, Rajabalian S, Gandjalikhan Nassab SA. In Vitro Cytotoxic Effects of Celecoxib, Mefenamic Acid, Aspirin and Indometacin on Several Cells Lines. J Dent (Shiraz). 2016 Sep;17(3):219-25. PMID: 27602398; PMCID: PMC5006832.
2. Gierse JK, Hauser SD, Creely DP, Koboldt C, Rangwala SH, Isakson PC, Seibert K. Expression and selective inhibition of the constitutive and inducible forms of human cyclo-oxygenase. Biochem J. 1995 Jan 15;305 (Pt 2)(Pt 2):479-84. doi: 10.1042/bj3050479. PMID: 7832763; PMCID: PMC1136387.

In vivo study

1. Seyyedi R, Talebpour Amiri F, Farzipour S, Mihandoust E, Hosseinimehr SJ. Mefenamic acid as a promising therapeutic medicine against colon cancer in tumor-bearing mice. Med Oncol. 2022 Jan 4;39(2):18. doi: 10.1007/s12032-021-01618-3. PMID: 34982268.
2. Feng X, Fan Y, Chung CY. Mefenamic acid can attenuate depressive symptoms by suppressing microglia activation induced upon chronic stress. Brain Res. 2020 Aug 1;1740:146846. doi: 10.1016/j.brainres.2020.146846. Epub 2020 Apr 20. PMID: 32325074.

7. Bioactivity

Biological target:

Mefenamic acid is a non-steroidal anti-inflammatory agent, acting as a competitive inhibitor of hCOX-1 and hCOX-2, with IC₅₀s of 40 nM and 3 μM for hCOX-1 and hCOX-2, respectively.

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In vitro activity

Mefenamic acid exerted cytotoxic effects on KB, Saos-2, and 1321N cells, where the viability was approximately 75%. U-87MG cells were resistant to mefenamic acid.

Reference: J Dent (Shiraz). 2016 Sep;17(3):219-25. <https://pubmed.ncbi.nlm.nih.gov/27602398/>

In vivo activity

Tumor-bearing mice were received MEF (mefenamic acid) at a dose of 25 mg/kg for 6 successive days. MEF treatment in IR exposure mice showed a significant increase in the immunoreactivity of caspase-3 in the colon tumor tissue. MEF has an anti-tumor effect in colon tumor-bearing mice.

Reference: Med Oncol. 2022 Jan 4;39(2):18. <https://pubmed.ncbi.nlm.nih.gov/34982268/>

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.