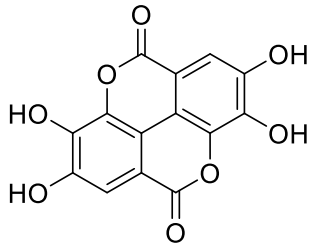
Product data sheet

MedKoo Cat#: 540115 Name: Ellagic Acid CAS#: 476-66-4 Chemical Formula: $C_{14}H_6O_8$ Exact Mass: 302.0063 Molecular Weight: 302.19	
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:
Ellagic Acid is an HDAC modulator found in fruit. It displays a variety of activities, including suppressing neovascular and angiogenesis, preventing airway hyperresponsiveness in allergy models, inhibiting cellular proliferation and inducing apoptosis in pancreatic adenocarcinoma cells, and limiting proliferation of Plasmodium and Rhinovirus.

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	1.36	4.50

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.31 mL	16.55 mL	33.09 mL
5 mM	0.66 mL	3.31 mL	6.62 mL
10 mM	0.33 mL	1.65 mL	3.31 mL
50 mM	0.07 mL	0.33 mL	0.66 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. Ieda A, Wada M, Moriyasu Y, Okuno Y, Zaima N, Moriyama T. Ellagic Acid Suppresses ApoB Secretion and Enhances ApoA-1 Secretion from Human Hepatoma Cells, HepG2. Molecules. 2021 Jun 25;26(13):3885. doi: 10.3390/molecules26133885. PMID: 34202121; PMCID: PMC8271888.
2. Kumar S, Kumar R, Kumari M, Kumari R, Saha S, Bhavesh NS, Maiti TK. Ellagic Acid Inhibits α-Synuclein Aggregation at Multiple Stages and Reduces Its Cytotoxicity. ACS Chem Neurosci. 2021 Jun 2;12(11):1919-1930. doi: 10.1021/acschemneuro.1c00001. Epub 2021 May 20. PMID: 34015214.

In vivo study

1. Sharma P, Kumar M, Bansal N. Ellagic acid prevents 3-nitropropionic acid induced symptoms of Huntington's disease. Naunyn Schmiedebergs Arch Pharmacol. 2021 Jun 1. doi: 10.1007/s00210-021-02106-1. Epub ahead of print. PMID: 34061228.
2. Park WY, Park J, Ahn KS, Kwak HJ, Um JY. Ellagic acid induces beige remodeling of white adipose tissue by controlling mitochondrial dynamics and SIRT3. FASEB J. 2021 Jun;35(6):e21548. doi: 10.1096/fj.202002491R. PMID: 33956354.

7. Bioactivity
Biological target:
Ellagic acid acts as a potent and ATP-competitive CK2 inhibitor, with an IC50 of 40 nM and a Ki of 20 nM.

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In vitro activity

EA (Ellagic acid) was dissolved in dimethyl sulfoxide (DMSO) and added to the serum-free medium, ensuring that the final concentration of DMSO was below 1%. EA suppressed the secretion of VLDL (apoB) at the 50 μM concentration compared to the secretion in the untreated control using ELISA (Figure 3a).

Reference: Molecules. 2021 Jul; 26(13): 3885. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8271888/

In vivo activity

EA (Ellagic acid) (25, 50, 100 mg/kg) significantly prevented (day 21; $p < 0.05$, $p < 0.001$, $p < 0.001$) 3-NP induced increase of latency to traverse the narrow beam in relation to rats that received 3-NP alone (Fig. 2a). Daily treatment of rats with EA (50 and 100 mg/kg) prevented (day 21; $p < 0.001$) the 3-NP triggered paw slips relative to rats that received 3-NP only (Fig. 2b). EA at dose 25 mg/kg also lowered (day 7, 14, $p < 0.01$) the number of paw slips in 3-NP administered rats (Fig. 2b). The present results indicated that 3-NP induced characteristic features of Huntington's disease (motor and hind-limb impairment) in rats were significantly attenuated by EA pre-treatment.

Reference: Naunyn Schmiedebergs Arch Pharmacol. 2021 Jun 1. https://pubmed.ncbi.nlm.nih.gov/34061228/