

# Product data sheet



MedKoo Cat#: 584389 Name: Scoparone CAS#: 120-08-1 Chemical Formula: C <sub>11</sub> H <sub>10</sub> O <sub>4</sub> Exact Mass: 206.0579 Molecular Weight: 206.20	
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:

Scoparone is a natural compound isolated from *Artemisia capillaris*. Traditionally used in Chinese herbal medicine to treat neonatal jaundice, this compound has been found to elicit anti-tumor effects against DU145 prostate cancer cells in part through inhibition of STAT3 activity.

## 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	25	121.24
DMSO	50	242.49
Ethanol	1	4.85

## 4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.85 mL	24.25 mL	48.50 mL
5 mM	0.97 mL	4.85 mL	9.70 mL
10 mM	0.48 mL	2.42 mL	4.85 mL
50 mM	0.10 mL	0.48 mL	0.97 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

- Shen H, Wei Y, Yang Q, Cai Y, Zhu K, Chen X. Scoparone induces both apoptosis and ferroptosis via multiple mechanisms in non-small-cell lung cancer cells. *Toxicol In Vitro*. 2023 Sep;91:105627. doi: 10.1016/j.tiv.2023.105627. Epub 2023 Jun 12. PMID: 37315743.
- Wu X, Li X, Li J, Zhao X, Cui Y, Eerdun C. Scoparone inhibits breast cancer cell viability through the NF-κB signaling pathway. *Exp Ther Med*. 2023 May 17;26(1):328. doi: 10.3892/etm.2023.12027. PMID: 37346408; PMCID: PMC10280323.

### In vivo study

- Ye M, Liu C, Liu J, Lu F, Xue J, Li F, Tang Y. Scoparone inhibits the development of hepatocellular carcinoma by modulating the p38 MAPK/Akt/NF-κB signaling in nonalcoholic fatty liver disease mice. *Environ Toxicol*. 2023 Jul 12. doi: 10.1002/tox.23851. Epub ahead of print. PMID: 37436232.
- Jiang Y, Xu J, Huang P, Yang L, Liu Y, Li Y, Wang J, Song H, Zheng P. Scoparone Improves Nonalcoholic Steatohepatitis Through Alleviating JNK/Sab Signaling Pathway-Mediated Mitochondrial Dysfunction. *Front Pharmacol*. 2022 May 3;13:863756. doi: 10.3389/fphar.2022.863756. PMID: 35592421; PMCID: PMC9110978.

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## 7. Bioactivity

### Biological target:

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Scoparone has anticoagulant, vasorelaxant antioxidant, anti-inflammatory activities.

### In vitro activity

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Scoparone is a promising agent for non-small-cell-lung cancer (NSCLC) treatment. Scoparone induced apoptosis and ferroptosis in NSCLC cells. Scoparone activated the ROS/JNK/SP1/ACSL4 axis to trigger ferroptosis in NSCLC cells. Scoparone treatment led to FBW7-mediated ubiquitination and downregulation of Mcl-1. Scoparone also induced Bax activation in an ROS-dependent manner.

Reference: Toxicol In Vitro. 2023 Sep;91:105627. <https://pubmed.ncbi.nlm.nih.gov/37315743/>

### In vivo activity

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In a murine model of non-alcoholic fatty liver disease (NAFLD) into hepatocellular carcinoma (HCC), scoparone could ameliorate pathological alterations observed in NAFLD-HCC disease progression. Scoparone administration reverted upregulation of NF- $\kappa$ B p65 expression in NAFLD and NAFLD-HCC models. Scoparone reversed increased mRNA expression levels of NF- $\kappa$ B target genes, which were originally elevated in NAFLD-HCC. Scoparone counteracted MAPK/Akt signaling activation in the NAFLD-HCC model.

Reference: Environ Toxicol. 2023 Jul 12. Preprint. <https://pubmed.ncbi.nlm.nih.gov/37436232/>

*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.*