

Product data sheet



MedKoo Cat#: 407827 Name: Neobavaisoflavone CAS: 41060-15-5 Chemical Formula: C ₂₀ H ₁₈ O ₄ Exact Mass: 322.1205 Molecular Weight: 322.36		
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:

Neobavaisoflavone is a natural isoflavone that was first isolated from seeds of *P. corylifolia*, which are used in traditional herbal medicine to treat various skin diseases. Neobavaisoflavone sensitizes apoptosis via the inhibition of metastasis in TRAIL-resistant human glioma U373MG 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
DMF	20.0	62.04
DMF:PBS (pH 7.2) (1:4)	0.1	0.31
DMSO	35.0	108.57
Ethanol	1.0	3.10

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.10 mL	15.51 mL	31.02 mL
5 mM	0.62 mL	3.10 mL	6.20 mL
10 mM	0.31 mL	1.55 mL	3.10 mL
50 mM	0.06 mL	0.31 mL	0.62 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

- Guo J, Shen Y, Hu S, Rui T, Liu J, Yuan Y. Neobavaisoflavone inhibits antitumor immunosuppression via myeloid-derived suppressor cells. *Int Immunopharmacol.* 2022 Oct;111:109103. doi: 10.1016/j.intimp.2022.109103. Epub 2022 Aug 6. PMID: 35944461.
- Szliszka E, Skaba D, Czuba ZP, Krol W. Inhibition of inflammatory mediators by neobavaisoflavone in activated RAW264.7 macrophages. *Molecules.* 2011 May 3;16(5):3701-12. doi: 10.3390/molecules16053701. PMID: 21540797; PMCID: PMC6263287.

In vivo study

- Bai J, Liu T, Ren M, Wang X. Neobavaisoflavone improves medial collateral ligament-induced osteoarthritis through repressing the nuclear factor- κ B/hypoxia-inducible factor-2 α axis. *J Physiol Pharmacol.* 2022 Oct;73(5). doi: 10.26402/jpp.2022.5.08. Epub 2023 Mar 16. PMID: 36942811.

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2. Liang R, Yuan Y, Bai Y, Liu X, Chen J, Jiang D, Meng D, Chen G, Li B, Zhou L, Guo W. Neobavaisoflavone inhibits allergic inflammatory responses by suppressing mast cell activation. Int Immunopharmacol. 2022 Sep;110:108953. doi: 10.1016/j.intimp.2022.108953. Epub 2022 Jun 17. PMID: 35724607.

7. Bioactivity

Biological target:

Neobavaisoflavone inhibits DNA polymerase.

In vitro activity

The present study investigated in vitro the anti-inflammatory activity of neobavaisoflavone. Neobavaisoflavone significantly inhibited the production of reactive oxygen species (ROS), reactive nitrogen species (RNS) and cytokines: IL-1 β , IL-6, IL-12p40, IL-12p70, TNF- α in LPS+IFN- γ - or PMA- stimulated RAW264.7 macrophages.

Reference: Molecules. 2011 May 3;16(5):3701-12. <https://pubmed.ncbi.nlm.nih.gov/21540797/>

In vivo activity

As indicated by the results, NBIF (neobavaisoflavone) mitigated cartilage matrix degradation and chondrocyte apoptosis in the OA rat model. NBIF hampered IL-1 β -mediated cell viability inhibition, apoptosis, inflammatory reactions, and oxidative stress of chondrocytes. Moreover, NBIF suppressed NF- κ B phosphorylation and HIF-2 α expression. HIF-2 α overexpression induced inflammation, oxidative stress, and apoptosis in chondrocytes, while NBIF reversed HIF-2 α overexpression-caused chondrocyte damage.

Reference: J Physiol Pharmacol. 2022 Oct;73(5). <https://pubmed.ncbi.nlm.nih.gov/36942811/>

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.