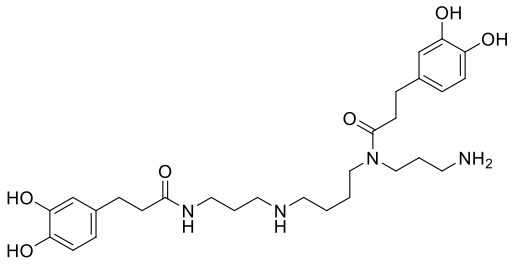
Product data sheet

MedKoo Cat#: 527604 Name: Kukoamine B Mesylate CAS: 164991-67-7 Chemical Formula: $C_{28}H_{42}N_4O_6$ Exact Mass: 530.3104 Molecular Weight: 530.666	
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:

Kukoamine B Mesylate is potentially for the treatment of sepsis. Kukoamines are a series of bioactive phytochemicals conjugated by a polyamine backbone and phenolic moieties. Treatment with KuB prior to H2O2 exposure effectively increased the cell viability, and restored the mitochondria membrane potential (MMP). Furthermore, KuB enhanced the antioxidant enzyme activities of superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GSH-Px) and decreased the malondialdehyde (MDA) content. Moreover, KuB minimized the ROS formation and inhibited mitochondria-apoptotic pathway, MAPKs (p-p38, p-JNK, p-ERK) pathways, but activated PI3K-AKT pathway.

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	30.0	56.53
DMSO	30.0	56.53
Ethanol	30.0	56.53
PBS (pH 7.2)	10.0	18.84
Water	62.5	117.78

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	**1 mg**	**5 mg**	**10 mg**
1 mM	1.88 mL	9.42 mL	18.84 mL
5 mM	0.38 mL	1.88 mL	3.77 mL
10 mM	0.19 mL	0.94 mL	1.88 mL
50 mM	0.04 mL	0.19 mL	0.38 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. Kim HM, Kim JY, Kim JH, Kim CY. Kukoamine B from Lycii Radicis Cortex Protects Human Keratinocyte HaCaT Cells through Covalent Modification by Trans-2-Nonenal. Plants (Basel). 2022 Dec 29;12(1):163. doi: 10.3390/plants12010163. PMID: 36616291; PMCID: PMC9823295.

2. Jiang G, Takase M, Aihara Y, Shigemori H. Inhibitory activities of kukoamines A and B from Lycii Cortex on amyloid aggregation related to Alzheimer's disease and type 2 diabetes. J Nat Med. 2020 Jan;74(1):247-251. doi: 10.1007/s11418-019-01337-0. Epub 2019 Jul 2. PMID: 31267354.

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In vivo study

1. Zhao Q, Li L, Zhu Y, Hou D, Li Y, Guo X, Wang Y, Olatunji OJ, Wan P, Gong K. Kukoamine B Ameliorate Insulin Resistance, Oxidative Stress, Inflammation and Other Metabolic Abnormalities in High-Fat/High-Fructose-Fed Rats. Diabetes Metab Syndr Obes. 2020 May 26;13:1843-1853. doi: 10.2147/DMSO.S247844. PMID: 32547146; PMCID: PMC7266517.

2. Park E, Kim J, Kim MC, Yeo S, Kim J, Park S, Jo M, Choi CW, Jin HS, Lee SW, Li WY, Lee JW, Park JH, Huh D, Jeong SY. Anti-Osteoporotic Effects of Kukoamine B Isolated from Lycii Radicis Cortex Extract on Osteoblast and Osteoclast Cells and Ovariectomized Osteoporosis Model Mice. Int J Mol Sci. 2019 Jun 6;20(11):2784. doi: 10.3390/ijms20112784. PMID: 31174394; PMCID: PMC6600412.

7. Bioactivity

Biological target:

Kukoamine B is a component of Lycii Cortex, with anti-oxidant, anti-acute inflammatory and anti-diabetic properties.

In vitro activity

Subsequent LC-ESI-MS analysis revealed that kukoamine B (KB) formed Schiff base-derived pyridinium adducts with trans-2-nonenal. Thus, these results suggest that KB could be a potential agent that may protect HaCaT cells by forming new products with trans-2-nonenal.

Reference: Plants (Basel). 2022 Dec 29;12(1):163. https://pubmed.ncbi.nlm.nih.gov/36616291/

In vivo activity

HFDFr-fed rats showed a significant increase in body weight, fasting blood glucose, insulin, lipid accumulation and liver function enzymes. On the other hand, Kuk B (kukoamine B) significantly attenuated body weight, insulin resistance, lipid accumulation, oxidative stress and inflammation.

Reference: Diabetes Metab Syndr Obes. 2020 May 26;13:1843-1853. https://pubmed.ncbi.nlm.nih.gov/32547146/

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.