



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
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### SZABO-SCANDIC HandelsgmbH

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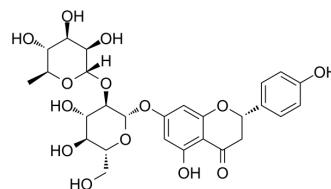
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## Naringin (Standard)

<b>Cat. No.:</b>	HY-N0153R
<b>CAS No.:</b>	10236-47-2
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>32</sub> O <sub>14</sub>
<b>Molecular Weight:</b>	580.53
<b>Target:</b>	Endogenous Metabolite; Cytochrome P450; Mitophagy; Autophagy
<b>Pathway:</b>	Metabolic Enzyme/Protease; Autophagy
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 125 mg/mL (215.32 mM; Need ultrasonic)  
 H<sub>2</sub>O : 1 mg/mL (1.72 mM; ultrasonic and warming and heat to 80°C)  
 Ethanol : < 1 mg/mL (ultrasonic;warming;heat to 80°C) (insoluble)

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		1.7226 mL	8.6128 mL	17.2256 mL
	5 mM		0.3445 mL	1.7226 mL	3.4451 mL
	10 mM		0.1723 mL	0.8613 mL	1.7226 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

Naringin is a major flavanone glycoside obtained from tomatoes, grapefruits, and many other citrus fruits. Naringin exhibits biological properties such as antioxidant, anti-inflammatory, and antiapoptotic activities. Naringin also inhibits proliferation and invasion and induces apoptosis in human osteosarcoma cells by inhibiting zinc finger E-box binding homeobox 1 (Zeb1) [1][5].

#### In Vitro

Naringin suppresses NF-κ B signaling pathway activation. Naringenin inhibits high glucose-induced proliferation, inflammatory reaction and oxidative stress injury in HBZY-1 cells<sup>[1]</sup>. Naringin inhibits AGS cancer cell proliferation in a dose- and time-dependent manner. Phosphorylation of PI3K and its activated downstream targets p-Akt and p-mTOR are significantly decreased at 2 mM in Naringin-treated AGS cells. Naringin induces autophagic cell death in AGS cells. Naringin activated the autophagy related protein in AGS cells<sup>[2]</sup>. Naringin protects PC12 cells from 3-NP neurotoxicity. The lactate dehydrogenase release is decreased upon naringin treatment in 3-NP-induced PC12 cells. Naringin treatment enhances the antioxidant defense by increasing the activities of enzymatic antioxidants and the level of reduced glutathione<sup>[3]</sup>. Naringin (10, 20 μM, 24 h) inhibits the expression of Zeb1, proliferation and migration in osteosarcoma cells and induces apoptosis<sup>[5]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## In Vivo

Treatment with naringin significantly alleviates renal injury in diabetic rats and increases diabetic rats body weight significantly. Administration of naringin effectively alleviates the collagen deposition and renal interstitial fibrosis in diabetic rats. Treatment with naringin could result in decreased levels of ROS and MDA and increased activities of SOD and GSH-Px<sup>[1]</sup>. Oral administration of naringin significantly improves the learning and memory abilities. Naringin significantly enhances insulin signaling pathway<sup>[3]</sup>. Naringin (5,10 mg/kg, iv, daily for 16 d) inhibits the invasion of MG63 cells in nude BALB/c mice<sup>[5]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Front Pharmacol. 2021 Jul 15;12:696135.
- J Zhejiang Univ Sci B. 2023 Mar 15;24(3):221-231.
- Environ Toxicol. 2022 Feb 18.
- Mol Med Rep. 2024 Feb;29(2):26.
- Mol Med Rep. 2021 Nov;24(5):772.

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## REFERENCES

- [1]. Chen F, et al. Naringin Alleviates Diabetic Kidney Disease through Inhibiting Oxidative Stress and Inflammatory Reaction. PLoS One. 2015 Nov 30;10(11):e0143868.
- [2]. Raha S, et al. Naringin induces autophagy-mediated growth inhibition by downregulating the PI3K/Akt/mTOR cascade via activation of MAPK pathways in AGS cancer cells. Int J Oncol. 2015 Sep;47(3):1061-9.
- [3]. Kulasekaran G, et al. Neuroprotective efficacy of naringin on 3-nitropropionic acid-induced mitochondrial dysfunction through the modulation of Nrf2 signaling pathway in PC12 cells. Mol Cell Biochem. 2015 Nov;409(1-2):199-211.
- [4]. Wang D, et al. Naringin Improves Neuronal Insulin Signaling, Brain Mitochondrial Function, and Cognitive Function in High-Fat Diet-Induced Obese Mice. Cell Mol Neurobiol. 2015 Oct;35(7):1061-71.
- [5]. Ming H, et al. Naringin targets Zeb1 to suppress osteosarcoma cell proliferation and metastasis. Aging (Albany NY). 2018 Dec 22;10(12):4141-4151.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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