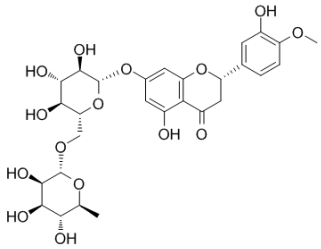
Data Sheet

Product Name:	Hesperidin
Cat. No.:	HY-15337
CAS No.:	520-26-3
Molecular Formula:	$C_{28}H_{34}O_{15}$
Molecular Weight:	610.56
Target:	Autophagy
Pathway:	Autophagy
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

Hesperidin (HP) is a bioflavonoid that plays a role in plant defense and is abundant in citrus species, such as grapefruit, lemon and orange. Hesperidin is used effectively as a supplemental agent in complementary therapy protocols, since it possesses biological and pharmacological properties as an effective antioxidant, anti–inflammatory, anti–carcinogenic, and anti–hypertensive agent with lipid–lowering activity[1]

IC50: hesperidin (IC50=116.68μmo/L))[4]

in vitro: hesperidin and linarin are two of the main constituent of Valeriana's extract exhibiting a high affinity to KATP channel, which are related to the control of Ca++ concentration and release of GABA in synaptic nerve terminal, mainly on cells of SN[2]

in vivo: Hesperidin was dissolved in 1% carboxymethyl cellulose (CMC) and administered orally at a dose of 50 mg/kg for 10 consecutive days. In the control group, rats were treated with the corn oil and 1% CMC vehicle.[1]

PROTOCOL (Extracted from published papers and Only for reference)

Cell assay [3] Cells were treated with hesperidin (0, 20, 40, 60, 80, and 100 μM) for 24, 48, or 72 h and relative cell viability was assessed using the 3–(4, 5–dimethylthiazol–2–yl)–2, 5–diphenyltetrazolium bromide (MTT) assay. Animal administration [1] In the control group, rats were treated with the corn oil and 1% CMC vehicle. In the CCl4 group, CCl4 was administered in a single injection on day 2. Rats in the HP group were treated with HP for 10 days, and those in the CCl4 + HP group were treated with CCl4 and HP together. Tissue samples were collected on day 10 after the first HP treatment. The animals were euthanized under ether anesthesia, and tissue samples were removed immediately, dissected on ice–cold glass, and stored at –86°C until analysis.

References:

[1]. Asli Cetin, Ali Otlu et al. Protective effect of hesperidin on oxidative and histological liver damage following carbon tetrachloride administration in Wistar rats. Arch Med Sci, 2016 Jun 1, 12(3): 486–493.

[2]. Gesivaldo Santos, Bruno Andrade et al. SUR1 Receptor Interaction with Hesperidin and Linarin Predicts Possible Mechanisms of Action of Valeriana officinalis in Parkinson. Front Aging Neurosci, 2016, 8: 97.

[3]. Jin Zhang, Jing Gao et al. Hesperidin inhibits HeLa cell proliferation through apoptosis mediated by endoplasmic reticulum stress pathways and cell cycle arrest. BMC Cancer, 2015, 15: 682.

[4]. Cetin A, Otlu A, ea al. Protective effect of hesperidin on oxidative and histological liver damage following carbon tetrachlorideadministration in Wistar rats. Arch Med Sci, 2016 Jun 1, 12(3):486–93.

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

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