



LKT Laboratories, Inc.

## Rutin Hydrate

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### Product Information

**Product ID** R8076

**CAS No.** 153-18-4

**Chemical Name** 4H-1-Benzopyran-4-one, 3-((6-O-(6-deoxy- $\alpha$ -L-mannopyranosyl)- $\beta$ -D-glucopyranosyl)oxy)-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-

**Synonym** 3-Rhamnoglucosylquercetin, Globulariacitrin, Phytomelin, Rutin, Tanrutin, Vitamin P1

**Formula**  $C_{27}H_{30}O_{16} \cdot 3H_2O$

**Formula Wt.** 610.52

**Melting Point** 195°C

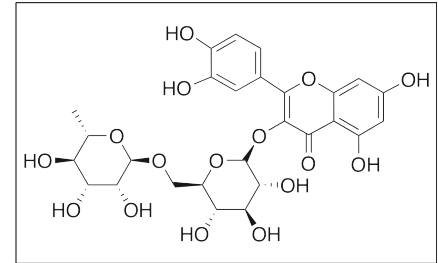
**Purity**  $\geq 93\%$

**Solubility** Soluble in DMSO, pyridine, methanol, ethanol, aqueous base. Insoluble in chloroform.

**Store Temp** Ambient

**Ship Temp** Ambient

**Description** Rutin is a flavonoid glycoside found in rhubarb, asparagus, buckwheat, citrus, and berries; it exhibits anxiolytic, antioxidative, anti-inflammatory, anti-obesity, anti-diabetic, and neuroprotective activities. In animal models of restraint stress, rutin decreases locomotor activity, oxidative stress, and cortisone levels. In animal models of acute lung injury, rutin inhibits granulocyte infiltration, increases expression of catalase, superoxide dismutase, glutathione peroxidase, and heme oxygenase 1 (HO-1), decreases inflammatory cytokine secretion and lipid peroxidation, and suppresses activation of MAPKs and NF- $\kappa$ B. Rutin increases glucose uptake in a PI3K- and PKC-dependent manner; it also increases insulin secretion and prevents fatty liver disease and obesity in animal models. In neurons, rutin protects against 6-OHDA-induced toxicity. In animal models of Alzheimer's disease, this compound ameliorates cognitive deficits.



**Bulk quantities available upon request**

Product ID	Size
R8076	50 g
R8076	100 g
R8076	500 g

**References** Yeh CH, Yang JJ, Yang ML, et al. Rutin decreases lipopolysaccharide-induced acute lung injury via inhibition of oxidative stress and the MAPK-NF- $\kappa$ B pathway. *Free Radic Biol Med.* 2014 Apr;69:249-57. PMID: 24486341.

Machawal L, Kumar A. Possible involvement of nitric oxide mechanism in the neuroprotective effect of rutin against immobilization stress induced anxiety like behaviour, oxidative damage in mice. *Pharmacol Rep.* 2014 Feb;66(1):15-21. PMID: 24905301.

D. Rutin suppresses palmitic acids-triggered inflammation in macrophages and blocks high fat diet-induced obesity and fatty liver in mice. *Pharm Res.* 2013 Nov;30(11):2940-50. PMID: 23783345.

Kappel VD, Cazarolli LH, Pereira DF, et al. Involvement of GLUT-4 in the stimulatory effect of rutin on glucose uptake in rat soleus muscle. *J Pharm Pharmacol.* 2013 Aug;65(8):1179-86. PMID: 23837585.

Magalingam KB, Radhakrishnan A, Haleagrahara N. Rutin, a bioflavonoid antioxidant protects rat pheochromocytoma (PC-12) cells against 6-hydroxydopamine (6-OHDA)-induced neurotoxicity. *Int J Mol Med.* 2013 Jul;32(1):235-40. PMID: 23670213.

Kappel VD, Frederico MJ, Postal BG, et al. The role of calcium in intracellular pathways of rutin in rat pancreatic islets: potential insulin secretagogue effect. *Eur J Pharmacol.* 2013 Feb 28;702(1-3):264-8. PMID: 23399767.

Javed H, Khan MM, Ahmad A, et al. Rutin prevents cognitive impairments by ameliorating oxidative stress and

**Caution:** This product is intended for laboratory and research use only. It is not for human or drug use.