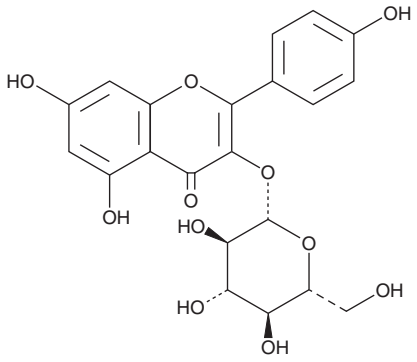
PRODUCT INFORMATION

Kaempferol-3-glucoside

Item No. 25060

CAS Registry No.:	480-10-4
Formal Name:	3-(β-D-glucopyranosyloxy)-5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one
Synonyms:	Astragalin, Kaempferol 3-β-D-glucopyranoside
MF:	$C_{21}H_{20}O_{11}$
FW:	448.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 268, 352 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Kaempferol-3-glucoside is supplied as a crystalline solid. A stock solution may be made by dissolving the kaempferol-3-glucoside in the solvent of choice, which should be purged with an inert gas. Kaempferol-3-glucoside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of kaempferol-3-glucoside in these solvents is approximately 30 mg/ml.

Kaempferol-3-glucoside is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, kaempferol-3-glucoside should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Kaempferol-3-glucoside has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Kaempferol-3-glucoside is an orally bioavailable flavonoid that has been isolated from the leaves of *D. kaki* and *R. agrestis* and has anti-inflammatory activity.[1,2] Kaempferol-3-glucoside (20-80 µg/ml) dose-dependently inhibits IL-1β-stimulated nitric oxide and prostaglandin E_2 (PGE_2; Item No. 14010) production in patient-derived osteoarthritis chondrocytes, an effect that is blocked by the PPAR-γ inhibitor GW 9662 (Item No. 70785).[2] It also inhibits IL-1β-stimulated expression of nitric oxide synthase (NOS) and COX-2 and activation of MAPK and NF-κB signaling. Kaempferol-3-glucoside (1-20 µM) dose-dependently prevents the loss of E-cadherin, expression of vimentin, and production of collagen type-1 in hydrogen peroxide-exposed human bronchial epithelial cells *in vitro*.[3] Kaempferol-3-glucoside (1.5 mg/kg, p.o.) inhibits ear swelling and the production of IL-2 and IL-4 as well as reduces serum IgE levels in a mouse model of atopic dermatitis.[1] Kaempferol-3-glucoside (10-20 mg/kg, p.o.) also reduces reactive oxygen species (ROS) production, collagen fiber deposition, and autophagosome formation in the epithelial lung tissue of ovalbumin-challenged mice.[3]

References

1. Kotani, M., Matsumoto, M., Fujita, A., *et al. J. Allergy Clin. Immunol.* **106(1 Pt 1)**, 159-166 (2000).
2. Ma, Z., Piao, T., Wang, Y., *et al. Int. Immunopharmacol.* **25(1)**, 83-87 (2015).
3. Cho, I.-H., Choi, Y.-J., Gong, J.-H., *et al. Respir. Res.* **16:51**, (2015).

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