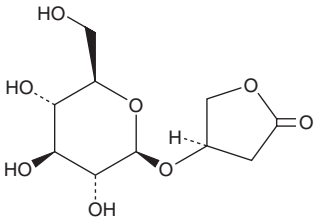
PRODUCT INFORMATION

Kinsenoside

Item No. 25144

CAS Registry No.:	151870-74-5
Formal Name:	4R-(β-D-glucopyranosyloxy)dihydro-2(3H)-furanone
Synonym:	(+)-Kinsenoside
MF:	$C_{10}H_{16}O_8$
FW:	264.2
Purity:	≥95%
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

Kinsenoside is supplied as a crystalline solid. A stock solution may be made by dissolving the kinsenoside in the solvent of choice, which should be purged with an inert gas. Kinsenoside is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of kinsenoside in these solvents is approximately 16 and 14 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of kinsenoside can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of kinsenoside in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Kinsenoside is a glycoside originally isolated from *A. formosanus* that has diverse biological activities, including antihyperlipidemic, immunosuppressive, and anti-inflammatory properties.[1-4] It increases lipolysis mediated by adipose triglyceride lipase and increases hydrolysis of triglycerides in C3H10T1/2 adipocytes.[2] It also increases phosphorylation of peroxisome proliferator-activated receptor α (PPARα) and CREB as well as protein levels of SIRT1, PGC-1α, and carnitine palmitoyltransferase I. Kinsenoside downregulates the expression and phosphorylation of VEGF receptor 2 (VEGFR2) and inhibits crosstalk between the JAK2/STAT3 and PI3K/AKT signaling pathways in dendritic cells *in vitro*.[4] It decreases the production of IFN-γ, IL-17, and TNF-α and increases the production of IL-10 in splenocytes isolated from mice with collagen-induced arthritis (CIA).[3] Kinsenoside (300 mg/kg per day) decreases the expression of IL-1β, TNF-α, and matrix metalloproteinase-9 (MMP-9) and increases the expression of IL-10 in inflamed joints in a mouse model of collagen-induced arthritis and prevents paw edema and reduces the severity of arthritis.

References

1. Du, X.-M., Sun, N.-Y., Irino, N., *et al. Chem. Pharm. Bull. (Tokyo)* **48(11)**, 1803-1804 (2000).
2. Cheng, K.T., Wang, Y.S., Chou, H.C., *et al. Phytomedicine* **22(6)**, 641-647 (2015).
3. Hsiao, H.-B., Hsieh, C.-C., Wu, J.-B., *et al. BMC Complement. Altern. Med.* **16**, 80 (2016).
4. Xiang, M., Liu, T., Tan, W., *et al. Hepatology* **64(6)**, 2135-2150 (2016).

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