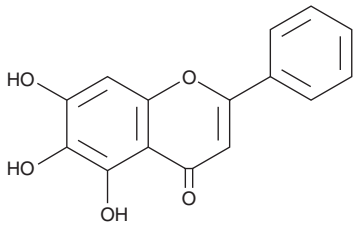
PRODUCT INFORMATION

Baicalein

Item No. 70610

CAS Registry No.:	491-67-8
Formal Name:	5,6,7-trihydroxyflavone
MF:	$C_{15}H_{10}O_5$
FW:	270.2
Purity:	≥95%
UV/Vis.:	λ_{max}: 216, 277, 324 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

Baicalein is supplied as a crystalline solid. A stock solution may be made by dissolving the baicalein in the solvent of choice, which should be purged with an inert gas. Baicalein is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of baicalein in these solvents is approximately 1.3, 28, and 52 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 baicalein can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of baicalein in PBS (pH 7.2) is approximately 0.09 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Baicalein is a flavonoid originally isolated from the roots of *S. baicalensis* that has diverse biological activities.[1] It inhibits human platelet 12-lipoxygenase (12-LO) and human reticulocyte 15-LO-1 (IC_{50}s = 0.64 and 1.6 µM, respectively) but is less potent at 15-LO-1 when the detergent Triton-X is present (IC_{50} = 38 µM).[2] Baicalein inhibits lipid peroxidation, as assessed by production of thiobarbituric acid (TBARS; IC_{50} = 5 µM), and inhibits growth of Huh-7, KIM-1, and HLF human hepatocellular carcinoma cells (IC_{50}s = 17-70 µg/ml).[3,4] Baicalein increases intracellular calcium levels by increasing release from the endoplasmic reticulum and *via* PKC-dependent calcium channels in the plasma membrane, leading to increases in reactive oxygen species (ROS), caspase-9 and -3 activation, and apoptosis in ZR-75-1 human breast cancer cells.[5] Baicalein increases levels of peroxisome proliferator-activated receptor β/δ (PPARβ/δ) in BV-2 microglia and primary microglia and decreases the level of 12- and 15-LO products.[6] It also decreases symptoms of experimental autoimmune encephalomyelitis (EAE) in a mouse model of multiple sclerosis, when administered at a dose of 75 mg/kg per day.

References

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3. Matsuzaki, Y., Korokawa, N., Terai, S., *et al. Jpn. J. Cancer Res.* **87(2)**, 170-177 (1996).
4. Gao, D., Sakurai, K., Katoh, M., *et al. Biochem. Mol. Biol. Int.* **39(2)**, 215-225 (1996).
5. Chang, H.-T., Chou, C.-F., Kuo, D.-H., *et al. J. Nat. Prod.* **78(7)**, 1624-1634 (2015).
6. Xu, J., Zhang, Y., Xiao, Y., *et al. Cell Death Dis.* **4(4)**, e569 (2013).

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