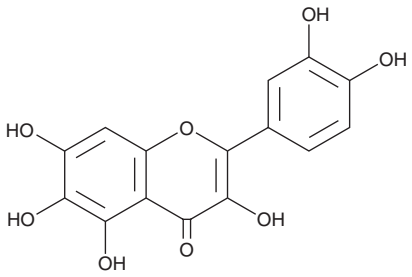
PRODUCT INFORMATION

Quercetagetin

Item No. 18645

CAS Registry No.:	90-18-6
Formal Name:	2-(3,4-dihydroxyphenyl)-3,5,6,7-tetrahydroxy-4H-1-benzopyran-4-one
Synonyms:	6-hydroxy Quercetin, NSC 115916
MF:	$C_{15}H_{10}O_8$
FW:	318.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 259, 363 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

Quercetagetin is supplied as a crystalline solid. A stock solution may be made by dissolving the quercetagetin in the solvent of choice, which should be purged with an inert gas. Quercetagetin is soluble in the organic solvent DMSO.

Quercetagetin is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

The proto-oncogene serine/threonine-protein kinases, Pim-1 and Pim-2, are enzymes involved in cytokine signaling and participate in various signal transduction pathways, including cell growth, differentiation, and apoptosis. Their overexpression has been implicated in prostate cancer, some forms of leukemia, and lymphoma. Quercetagetin is a flavonol that inhibits Pim-1 with an IC_{50} value of 0.34 µM.[1] It is selective for Pim-1, inhibiting Pim-2, PKA, RSK2, and JNK with IC_{50} values of 3.45, 21.2, 2.82, and 4.6 µM, respectively.[1,2] Quercetagetin has been shown to inhibit Pim-1 activity in intact RWPE2 prostate cancer cells with an ED_{50} value of 5.5 µM, which led to significant growth inhibition.[1] It can also inhibit the growth of additional prostate epithelial cell lines at a potency proportionate to their respective level of Pim-1 protein.[1]

References

1. Holder, S., Zemskova, M., Zhang, C., *et al.* Characterization of a potent and selective small-molecule inhibitor of the PIM1 kinase. *Mol. Cancer Ther.* **6(1)**, 163-172 (2007).
2. Baek, S., Kang, N.J., Popowicz, G.M., *et al.* Structural and functional analysis of the natural JNK1 inhibitor quercetagetin. *J. Mol. Biol.* **425(2)**, 411-423 (2013).

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