

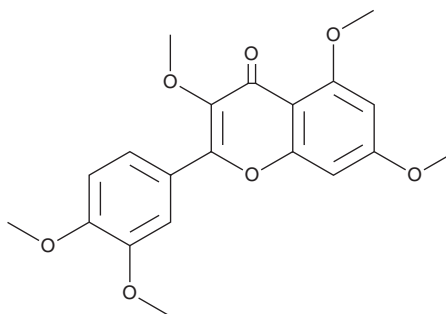
PRODUCT INFORMATION



3,5,7,3',4'-Pentamethoxyflavone

Item No. 46065

CAS Registry No.: 1247-97-8
Formal Name: 2-(3,4-dimethoxyphenyl)-3,5,7-trimethoxy-4H-1-benzopyran-4-one
Synonyms: KPMF-8, PMF, NSC 115922, NSC 618936, Quercetin 3,5,7,3',4'-Pentamethyl ether
MF: C₂₀H₂₀O₇
FW: 372.4
Purity: ≥98%
Supplied as: A 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

3,5,7,3',4'-Pentamethoxyflavone (PMF) is supplied as a solid. A stock solution may be made by dissolving the PMF in the solvent of choice, which should be purged with an inert gas. PMF is soluble (≥10 mg/ml) in DMSO.

Description

PMF is the pentamethyl ether derivative of quercetin (Item No. 10005169) that has been found in *K. parviflora* and has diverse biological activities.¹⁻³ It is a SIRT1 activator that binds directly to SIRT1 and enhances its binding to the acetylated p53 peptide Ac-p53-AMC by 25-fold at 2 μM, an effect that is dependent on the SIRT1 N-terminal domain and the E230 residue of SIRT1.¹ PMF (20 μM) increases deacetylase activity in SIRT1-expressing, but not SIRT1-knockdown, MCF-7 cells. It also binds to the minor groove of DNA, and it inhibits the formation of DNA single-strand breaks induced by hydrogen peroxide (H₂O₂) in mouse peripheral blood mononuclear cells (PBMCs) at 100 μg/ml but has weak antioxidant activity in a DPPH (Item No. 14805) assay (IC₅₀ = 234.74 μg/ml).² However, it reduces the levels of reactive oxygen species (ROS) and reverses cellular senescence in aged primary human dermal fibroblasts (HDFs) at 3 μg/ml.³

References

1. Zhang, M., Lu, P., Terada, T., *et al.* Quercetin 3,5,7,3',4'-pentamethyl ether from *Kaempferia parviflora* directly and effectively activates human SIRT1. *Commun. Biol.* **4**(1), 209 (2021).
2. Jakhar, R., Paul, S., Park, Y.R., *et al.* 3,5,7,3',4'-Pentamethoxyflavone, a quercetin derivative protects DNA from oxidative challenges: Potential mechanism of action. *J. Photochem. Photobiol. B* **131**, 96-103 (2014).
3. Klinngam, W., Rungkamoltip, P., Thongin, S., *et al.* Polymethoxyflavones from *Kaempferia parviflora* ameliorate skin aging in primary human dermal fibroblasts and ex vivo human skin. *Biomed. Pharmacother.* **145**, 112461 (2022).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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