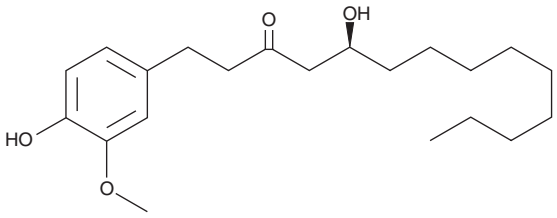
PRODUCT INFORMATION

10-Gingerol

Item No. 11842

CAS Registry No.:	23513-15-7
Formal Name:	5S-hydroxy-1-(4-hydroxy-3-methoxyphenyl)-3-tetradecanone
MF:	$C_{21}H_{34}O_4$
FW:	350.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 281 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years
Item Origin:	Plant/*Zingiber officinale*



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

Laboratory Procedures

10-Gingerol is supplied as a crystalline solid. A stock solution may be made by dissolving the 10-gingerol in the solvent of choice, which should be purged with an inert gas. 10-Gingerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of 10-gingerol in DMSO is approximately 25 mg/ml and approximately 30 mg/ml in ethanol and DMF.

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 10-gingerol can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 10-gingerol in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

10-Gingerol is a phenol that has been found in *Z. officinale* and has diverse biological activities.[1-4] It scavenges DPPH (Item No. 14805), superoxide, and hydroxyl radicals in cell-free assays (IC_{50}s = 10.47, 1.68, and 1.35 µM, respectively) and inhibits oxidative burst induced by N-formyl-Met-Leu-Phe (fMLP; Item No. 21495) in isolated human polymorphonuclear (PMN) neutrophils when used at a concentration of 6 µM.[1] 10-Gingerol inhibits NETosis and the production of reactive oxygen species (ROS) induced by LPS or lupus-relevant stimuli, including ribonucleoprotein-containing immune complexes and anti-phospholipid antibodies, in isolated human neutrophils.[2] It is active against *M. avium* and *M. tuberculosis* (MICs = 25 and 50 µg/ml, respectively).[3] 10-Gingerol (200 µM) is also cytotoxic to human MDA-MB-231 and MDA-MB-468 and murine 4T1 and EO771 mammary carcinoma cells.[4]

References

1. Dugasani, S., Pichika, M.R., Nadarajah, V.D., *et al. J. Ethnopharmacol.* **127(2)**, 515-520 (2010).
2. Ali, R.A., Gandhi, A.A., Dai, L., *et al. JCI Insight* **6(3)**, e138385 (2021).
3. Hiserodt, R.D., Franzblau, S.G., and Rosen, R.T. *J. Agric. Food Chem.* **46(7)**, 2504-2508 (1998).
4. Bernard, M.M., McConnery, J.R., and Hoskin, *Exp. Mol. Pathol.* **102(2)**, 370-376 (2017).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM