6-Gingerol

CAS Registry No.: 23513-14-6
Formal Name: 5S-hydroxy-1-(4-hydroxy-3-methoxyphenyl)-3-decanone
MF: C_{17}H_{26}O_{4}
FW: 294.4
Purity: ≥98%
UV/Vis.: λ_{max}^* 282, 336 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 1 year from the QC date provided on the Certificate of Analysis, when stored properly

Laboratory Procedures

6-Gingerol is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-gingerol in the solvent of choice. 6-Gingerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 6-gingerol in ethanol and DMF is approximately 30 mg/ml and 25 mg/ml in DMSO.

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 6-gingerol can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 6-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

6-Gingerol is a natural chemical found in the rhizomes of ginger (Z. officinale). It shares the vanillyl group found on capsaicin (Item No. 92350) and, like capsaicin, activates the transient receptor potential vanilloid receptor TRPV1 (EC_{50} = 3.3 µM) as well as the TRP ankyrin receptor TRPA1 (EC_{50} = 10.4 µM).1 6-Gingerol also non-competitively inhibits serotonin currents (IC_{50} = 30.3 µM) and weakly inhibits the cyclooxygenases COX-1 and COX-2 (IC_{50} = 129 and 125 µM).2,3

References