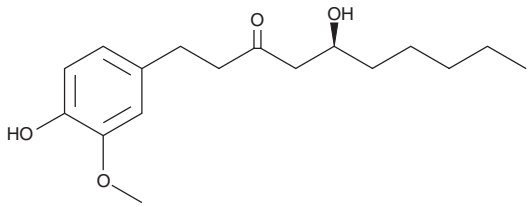
PRODUCT INFORMATION

6-Gingerol

Item No. 11707

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 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

6-Gingerol is supplied as a crystalline solid. A stock solution may be made by dissolving the 6-gingerol in the solvent of choice, which should be purged with an inert gas. 6-Gingerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). 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}s = 129 and 125 µM).[2,3]

References

1. Morera, E., De Petrocellis, L., Morera, L., *et al.* Synthesis and biological evaluation of [6]-gingerol analogues as transient receptor potential channel TRPV1 and TRPA1 modulators. *Bioorg. Med. Chem. Lett.* **22(4)**, 1674-1677 (2012).
2. Jin, Z., Lee, G., Kim, S., *et al.* Ginger and its pungent constituents non-competitively inhibit serotonin currents on visceral afferent neurons. *Korean J. Physiol. Pharmacol.* **18(2)**, 149-153 (2014).
3. Nishio, K., Fukuhara, A., Omata, Y., *et al.* Characterization of novel furan compounds on the basis of their radical scavenging activity and cytoprotective effects against glutamate- and lipopolysaccharide-induced insults. *Bioorg. Med. Chem.* **16(24)**, 10332-10337 (2008).

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