

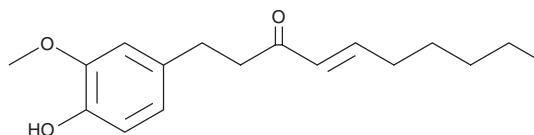
PRODUCT INFORMATION



6-Shogaol

Item No. 11901

CAS Registry No.: 555-66-8
Formal Name: 1-(4-hydroxy-3-methoxyphenyl)-4-decen-3-one
MF: C₁₇H₂₄O₃
FW: 276.4
Purity: ≥95%
UV/Vis.: λ_{max}: 203, 224, 281 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

6-Shogaol is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 6-shogaol in these solvents is approximately 20 mg/ml.

6-Shogaol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of 6-shogaol should be diluted with the aqueous buffer of choice. 6-Shogaol has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

6-Shogaol is a minor, bioactive component of ginger (*Zingiber officinale* Roscoe) with anti-inflammatory and anticancer properties. It is present in fresh ginger at low levels, but quantities of 6-shogaol are significantly increased in dried ginger. 6-Shogaol induces apoptosis in cancer cells through the production of reactive oxygen species and the activation of caspase, impairs tubulin polymerization, downregulates NF-κB signaling, inhibits the expression of inflammatory mediators, and suppresses Toll-like receptor signaling.¹ 6-Shogaol-rich extracts have been shown to enhance antioxidant defense mechanisms by inducing Nrf2/ARE-mediated gene expression in cell and animal models.² It can also activate both TRPV1 and TRPA1 channels (EC₅₀s = 0.32 and 16 μM, respectively).³

References

1. Ling, H., Yang, H., Tan, S.-H., *et al.* 6-Shogaol, an active constituent of ginger, inhibits breast cancer cell invasion by reducing matrix metalloproteinase-9 expression via blockade of nuclear factor-κB activation. *Brit. J. Pharmacol.* **161**, 1763-1777 (2010).
2. Bak, M.-J., Ok, S., Jun, M., *et al.* 6-Shogaol-rich extract from ginger up-regulates the antioxidant defense systems in cells and mice. *Molecules* **17**, 8037-8055 (2012).
3. 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).

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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