

## Small Molecules

Honokiol

Natural lignan

Catalog #100-1172

50 mg



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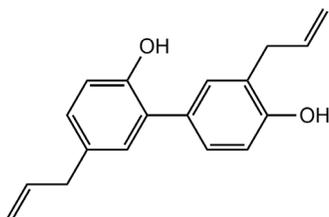
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## Product Description

Honokiol is a natural lignan derived from the plant *Magnolia grandiflora* that possesses antineoplastic and neuroprotective properties (Woodbury et al.). Honokiol inhibits the phosphorylation of Akt, a protein kinase that plays a role in regulating the production of inflammatory molecules (Kim and Cho). Honokiol also demonstrates anti-inflammatory effects by inhibiting nuclear factor kappa B (NF- $\kappa$ B) activation along with the production of inflammatory factors, such as nitric oxide (NO), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ), and RANTES/CCL5 in glial cells (Zhang et al.).

Alternative Names:	NSC-293100
CAS Number:	35354-74-6
Chemical Formula:	C <sub>18</sub> H <sub>18</sub> O <sub>2</sub>
Molecular Weight:	266.3 g/mol
Purity:	≥ 98%
Chemical Name:	3',5-Diallyl-[1,1'-biphenyl]-2,4'-diol
Structure:	



## Properties

Physical Appearance:	A beige powder
Storage:	Product stable at -20°C as supplied. As a precaution, STEMCELL recommends storing all small molecules away from direct light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	<ul style="list-style-type: none"><li>• DMSO ≤ 185 mM</li></ul> For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 3.76 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported; however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

## Published Applications

### CANCER RESEARCH

- Induces apoptosis in various (breast, blood, prostate and intestinal) cancer cells (Huang et al.; Shigemura et al.; Ishitsuka et al.).
- Reduces inflammation and senescence-associated biomarkers in cigarette smoke-damaged skin cells in vitro (Costa et al.).
- Blocks in vitro angiogenesis and in vivo tumor growth (Bai et al.).

### DISEASE MODELING

- Promotes neurite growth and enhances survivability in rat cortical neurons (Fukuyama et al.).
- Protects rat cerebellar granule neurons from glutamate- and N-methyl-D-aspartate (NMDA)-induced excitotoxic injury as well as H<sub>2</sub>O<sub>2</sub>-induced neurotoxicity (Lin et al.).
- Induces anti-cardiac hypertrophic effects in vitro and in mice by activating mitochondrial SIRT3 (Pillai et al.).

## References

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