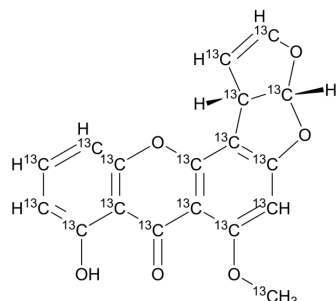


## Sterigmatocystine-<sup>13</sup>C<sub>18</sub>

<b>Cat. No.:</b>	HY-N6725S
<b>Molecular Formula:</b>	<sup>13</sup> C <sub>18</sub> H <sub>12</sub> O <sub>6</sub>
<b>Molecular Weight:</b>	342.15
<b>Target:</b>	Endogenous Metabolite; Apoptosis; Antibiotic; Bacterial; DNA/RNA Synthesis; Isotope-Labeled Compounds
<b>Pathway:</b>	Metabolic Enzyme/Protease; Apoptosis; Anti-infection; Cell Cycle/DNA Damage; Others
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Sterigmatocystine- <sup>13</sup> C <sub>18</sub> is <sup>13</sup> C labeled 2,6-Dimethoxyphenol (HY-W003972). 2,6-Dimethoxyphenol is a phenolic compound that is extensively used for the measurement of laccase activity <sup>[1]</sup> .
<b>In Vitro</b>	<p>Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs<sup>[1]</sup>.</p> <p>Sterigmatocystine-induced DNA damage activates the ATM/53-dependent signaling pathway, which contributes to the induction of G2 arrest in GES-1 cells<sup>[5]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
<b>In Vivo</b>	<p>Sterigmatocystine (ip; 3 mg/kg once daily for 14 days) inhibits p21<sup>WAF1/CIP1</sup><sup>[4]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

### REFERENCES

- [1]. Kusunoki M, et al. Long-term administration of the fungus toxin, sterigmatocystin, induces intestinal metaplasia and increases the proliferative activity of PCNA, p53, and MDM2 in the gastric mucosa of aged Mongolian gerbils. *Environ Health Prev Med.* 2011 Jul;16(4):224-31.
- [2]. Tong YF, et al. Cyclin-Dependent Kinase Inhibitor p21WAF1/CIP1 Facilitates the Development of Cardiac Hypertroph. *Cell Physiol Biochem.* 2017;42(4):1645-1656.
- [3]. Schroeder HW, et al. Production of sterigmatocystin by some species of the genus *Aspergillus* and its toxicity to chicken embryos. *Appl Microbiol.* 1975 Oct;30(4):589-91.
- [4]. Zhang D, et al. Sterigmatocystin-induced DNA damage triggers G2 arrest via an ATM/p53-related pathway in human gastric epithelium GES-1 cells in vitro. *PLoS One.* 2013 May 21;8(5):e65044.
- [5]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019 Feb;53(2):211-216.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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