

<b>Product Name:</b>	Sterigmatocystin
<b>Product Number:</b>	S103
<b>CAS Number:</b>	10048-13-2
<b>Molecular Formula:</b>	$C_{18}H_{12}O_6$
<b>Molecular Weight:</b>	324.3
<b>Appearance:</b>	Pale yellow solid
<b>Storage Conditions:</b>	-20°C
<b>Description:</b>	<p>Sterigmatocystin is a xanthone produced by several species of <i>Aspergillus</i>, isolated by a number of research groups in the 1950s as a mycotoxin associated with food and grain contamination. Sterigmatocystin is structurally related to the aflatoxins and, while it is considered to be mutagenic, teratogenic and carcinogenic, it is less widespread and potent than the aflatoxins.</p> <p>Sterigmatocystin is soluble in DMF and DMSO and is moderately soluble in methanol or ethanol.</p>
<b>Mechanism of Action:</b>	<p>Sterigmatocystin, in the presence of microsomes, covalently binds to DNA. It uncouples oxidative phosphorylation but, unlike the aflatoxins, does not induce mitochondrial swelling or hinder <math>Ca^{2+}</math>-induced swelling of mitochondria. Sterigmatocystin also inhibits acyl-CoA:cholesterol acyltransferase (ACAT) with selectivity for the ACAT2 isoenzyme.</p>
<b>References:</b>	<p>Studies in the biochemistry of micro-organisms. 99. Metabolic products of <i>Aspergillus versicolor</i> (Vuillemin) Tiraboschi. Birkinshaw J.H. &amp; Hammady I.M.M., <i>Biochem. J.</i> 1957, 65, 162.</p> <p>Sterigmatocystin-DNA interactions: Identification of a major adduct formed after metabolic activation in vitro. Essigmann J.M., <i>Proc. Nat. Acad. Sci. USA</i> 1979, 76, 179.</p> <p>Inhibitory effect of sterigmatocystin and 5,6-dimethoxysterigmatocystin on ATP synthesis in mitochondria. Kawai K. et al. , <i>Appl. Environ. Microbiol.</i> 1984, 48, 1001.</p> <p>Selective inhibition of acyl-CoA:cholesterol acyltransferase 2 isozyme by flavasperone and sterigmatocystin from <i>Aspergillus</i> species. Sakai K.J., <i>Antibiot.</i> 2008, 61, 568.</p>