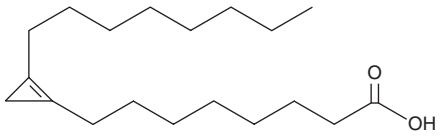
PRODUCT INFORMATION

Sterculic Acid

Item No. 26735

CAS Registry No.:	738-87-4
Formal Name:	2-octyl-1-cyclopropene-1-octanoic acid
Synonym:	FA 19:2
MF:	$C_{19}H_{34}O_2$
FW:	294.5
Purity:	≥98%
Supplied as:	A liquid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Sterculic acid is supplied as a liquid. Sterculic acid is soluble in organic solvents such as chloroform, hexane, ethyl ether, and methanol, which should be purged with an inert gas.

Description

Sterculic acid is a cyclopropene fatty acid that has been found in *S. foetida*.[1] It is an inhibitor of Δ^9-desaturase that decreases 9(Z)-myristoleic acid (Item No. 9002461) and increases oleic acid (Item No. 90260) and 9(Z),11(E)-conjugated linoleic acid (Item No. 90140) levels in the milk of lactating ewes when administered at a dose of 0.5 g per day.[2] It also inhibits endoplasmic reticulum stress induced by 7-keto cholesterol (Item No. 16339) in ARPE-19 cells when used at a concentration of 1 µM and prevents the formation of choroidal neovascularization when applied to eyes at concentrations of 0.1 to 10 mM in a rat model of macular degeneration induced by laser injury.[1] Sterculic acid binds to a variety of kinases, including calcium/calmodulin-dependent protein kinase kinase 2 (CAMKK2), mammalian sterile20-related kinase 3 (MST3), and p90 ribosomal S5 kinase 4 (RSK4).[3]

References

1. Huang, J.-D., Amaral, J., Lee, J.W., *et al.* Sterculic acid antagonizes 7-ketocholesterol-mediated inflammation and inhibits choroidal neovascularization. *Biochim. Biophys. Acta.* **1821(4)**, 637-646 (2012).
2. Bichi, E., Toral, P.G., Hervás, G., *et al.* Inhibition of Δ^9-desaturase activity with sterculic acid: Effect on the endogenous synthesis of *cis*-9 18:1 and *cis*-9, *trans*-11 18:2 in dairy sheep. *J. Dairy Sci.* **95(9)**, 5242-5252 (2012).
3. Huang, J.-D., Amaral, J., Lee, J.W., *et al.* 7-Ketocholesterol-induced inflammation signals mostly through the TLR4 receptor both *in vitro* and *in vivo*. *PLoS One* **9(7)**, e100985 (2014).

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