

Sterculic acid

Cat. No.:	HY-127143		
CAS No.:	738-87-4		
Molecular Formula:	C ₁₉ H ₃₄ O ₂		
Molecular Weight:	294.47		
Target:	Stearoyl-CoA Desaturase (SCD)		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Pure form	-20°C	3 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Methanol : 10 mg/mL (33.96 mM; ultrasonic and warming and heat to 60°C)
 DMSO : < 1 mg/mL (ultrasonic) (insoluble or slightly soluble)
 Ethanol : < 1 mg/mL (ultrasonic) (insoluble)

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.3959 mL	16.9797 mL	33.9593 mL
	5 mM	0.6792 mL	3.3959 mL	6.7919 mL
	10 mM	0.3396 mL	1.6980 mL	3.3959 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description	Sterculic acid is a stearoyl-CoA desaturase-1 (SCD1) inhibitor. Sterculic acid specifically inhibits the delta-9 desaturase ($\Delta 9D$) activity with an IC ₅₀ value of 0.9 μ M ^[1] .
IC₅₀ & Target	delta-9 desaturase 0.9 μ M (IC ₅₀)
In Vitro	<p>Sterculic acid (SA) is a cyclopropene fatty acid originally found in the seeds of the plant <i>Sterculia foetida</i> with numerous biological activities[2].</p> <p>Sterculic acid is able to reduce adrenomedullin expression (AP, RP, APS, IML, in preparation)[2].</p> <p>Sterculic acid is also able to mediate anti-inflammatory and protective effects[2].</p> <p>Sterculic acid has a potent luteolytic effect in ovines by inhibition in the synthesis of progesterone, which causes luteal regression[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

In Vivo

Sterculic acid has been proposed as a potential tool for the treatment of metabolic syndrome (MS) since it inhibits the activity of the stearoyl-CoA desaturase-1 (SCD1) in vivo[3].
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REFERENCES

- [1]. Lei Zhang, et al. A multiplexed cell assay in HepG2 cells for the identification of delta-5, delta-6, and delta-9 desaturase and elongase inhibitors. *J Biomol Screen*. 2010 Feb;15(2):169-76.
- [2]. Rafael Peláez, et al. Sterculic Acid: The Mechanisms of Action beyond Stearoyl-CoA Desaturase Inhibition and Therapeutic Opportunities in Human Diseases. *Cells*. 2020 Jan 7;9(1):140.
- [3]. Abril Ramírez-Higuera, et al. Preventive Action of Sterculic Oil on Metabolic Syndrome Development on a Fructose-Induced Rat Model. *J Med Food*. 2020 Mar;23(3):305-311.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA