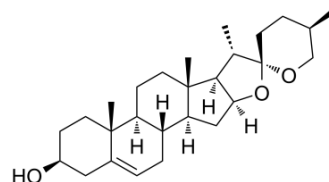


## Diosgenin

<b>Cat. No.:</b>	HY-N0177		
<b>CAS No.:</b>	512-04-9		
<b>Molecular Formula:</b>	C <sub>27</sub> H <sub>42</sub> O <sub>3</sub>		
<b>Molecular Weight:</b>	414.62		
<b>Target:</b>	STAT		
<b>Pathway:</b>	JAK/STAT Signaling; Stem Cell/Wnt		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

Ethanol : 6.67 mg/mL (16.09 mM; Need ultrasonic)  
 DMSO : < 1 mg/mL (insoluble or slightly soluble)

Concentration	Mass		
	1 mg	5 mg	10 mg
1 mM	2.4118 mL	12.0592 mL	24.1185 mL
5 mM	0.4824 mL	2.4118 mL	4.8237 mL
10 mM	0.2412 mL	1.2059 mL	2.4118 mL

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

#### In Vivo

- Add each solvent one by one: 10% EtOH >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: ≥ 0.67 mg/mL (1.62 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% (20% SBE-β-CD in saline)  
 Solubility: ≥ 0.67 mg/mL (1.62 mM); Clear solution
- Add each solvent one by one: 10% EtOH >> 90% corn oil  
 Solubility: ≥ 0.67 mg/mL (1.62 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Diosgenin, a steroidal saponin, can inhibit STAT3 signaling pathway<sup>[1]</sup>. Diosgenin is an exogenous activator of Pdia3/ERp57 [2].

#### IC<sub>50</sub> & Target

STAT3

#### In Vitro

In MC65 cells, a cellular AD model, diosgenin exhibited weak protective abilities at 1 μM, may represent a good candidate as

a steroidal moiety in our bivalent compounds against AD pathology<sup>[3]</sup>. Diosgenin inhibits the constitutive activation of STAT3 in C3A cells in a dose-dependent manner, with maximum inhibition occurring at around 100  $\mu\text{M}$ <sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Diosgenin treatment significantly reduces fasted and refed blood glucose level in HF dietfed mice. Diosgenin treatment significantly reduces blood glucose level in IPGTT test, compared with that of HF diet-fed mice<sup>[4]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Cell Physiol Biochem. 2016;39(4):1626-37.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Jeremy E. Chojnacki, et al. Bivalent ligands incorporating curcumin and diosgenin as multifunctional compounds against Alzheimer's disease. *Bioorganic & Medicinal Chemistry*, 23 (2015) 7324–7331
- [2]. Li F, et al. Diosgenin, a steroidal saponin, inhibits STAT3 signaling pathway leading to suppression of proliferation and chemosensitization of human hepatocellular carcinoma cells. *Cancer Lett.* 2010 Jun 28;292(2):197-207.
- [3]. Wang X, et al. Effect of diosgenin on metabolic dysfunction: Role of ER $\beta$  in the regulation of PPAR $\gamma$ . *Toxicol Appl Pharmacol.* 2015 Dec 1;289(2):286-96.
- [4]. Tohda C, et al. Diosgenin is an exogenous activator of 1,25D<sub>3</sub>-MARRS/Pdia3/ERp57 and improves Alzheimer's disease pathologies in 5XFAD mice. *Sci Rep.* 2012;2:535.

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

#### India Contact:

Life Technologies (India) Pvt. Ltd.  
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)