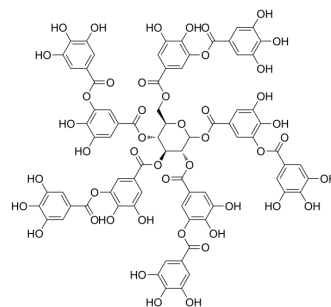


Tannic acid

Cat. No.:	HY-B2136		
CAS No.:	1401-55-4		
Molecular Formula:	C ₇₆ H ₅₂ O ₄₆		
Molecular Weight:	1701.2		
Target:	Potassium Channel		
Pathway:	Membrane Transporter/Ion Channel		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (58.78 mM; Need ultrasonic)
 H₂O : ≥ 100 mg/mL (58.78 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1 mg	5 mg	10 mg
	1 mM		0.5878 mL	2.9391 mL	5.8782 mL
	5 mM		0.1176 mL	0.5878 mL	1.1756 mL
	10 mM		0.0588 mL	0.2939 mL	0.5878 mL

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

In Vivo

- Add each solvent one by one: PBS
Solubility: 50 mg/mL (29.39 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (1.47 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tannic acid is a novel hERG channel blocker with IC₅₀ of 3.4 μM.

IC₅₀ & Target

IC₅₀: 3.4 μM (hERG channel)^[1]

In Vivo

During the course of treatment, tannic acid significantly ameliorates these phenotypes in AD skin lesions. Tannic acid treatment also reduces these dermal changes compared with AD mice. Treatment with tannic acid increases PPAR γ expression in AD skin sections. The PPAR γ protein expression is suppressed in vehicle-treated AD mice, but when treated with tannic acid, its expression is increased dramatically. The IL-1 β , TNF α , TNFR1, and COX2 protein expressions are significantly up-regulated in vehicle-treated AD mice, but significantly suppressed by tannic acid treatment^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Animal Administration ^[2]

Specific pathogen-free female 6 weeks old mice are used. The animals are maintained in a controlled room (temperature 23 \pm 2 °C, humidity 55 \pm 15%, 12 h light cycle). After 1 week, the mice are randomly divided into 3 groups, untreated group-receive vehicle (distill water) (Normal, n=5); DfE cream treated mice (100 mg/mouse) is divided into two groups and each receives vehicle (distill water) (AD, n=5) or Tannic acid (80 mg/kg/day, per oral) (AD+Tannic acid, n=5) and are allowed free access to drinking water and standard laboratory diet^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Adv Sci (Weinh). 2022 Oct 18;e2203088.
- Viruses. 2023 Jul 28, 15(8), 1644.

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REFERENCES

[1]. Xi Chu, et al. Effects of Tannic Acid, Green Tea and Red Wine on hERG Channels Expressed in HEK293 Cells. PLoS One. 2015; 10(12): e0143797.

[2]. Karuppagounder V, et al. Tannic acid modulates NF κ B signaling pathway and skin inflammation in NC/Nga mice through PPAR γ expression. Cytokine. 2015 Dec;76(2):206-13.

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

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