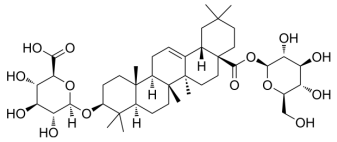
Chikusetsusaponin Iva

Cat. No.:	HY-N0818		
CAS No.:	51415-02-2		
Molecular Formula:	$C_{42}H_{66}O_{14}$		
Molecular Weight:	794.97		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (125.79 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2579 mL	6.2895 mL	12.5791 mL
	5 mM	0.2516 mL	1.2579 mL	2.5158 mL
	10 mM	0.1258 mL	0.6290 mL	1.2579 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.14 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.14 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.14 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Chikusetsusaponin IVa a major active ingredient of triterpenoid saponins, exerts antithrombotic effects, including minor hemorrhagic events. This appears to be important for the development of new therapeutic agents. a novel AMPK activator that is capable of bypassing defective insulin signalling and could be useful for the treatment of T2DM or other metabolic disorders.IC50 Value: 199.4 ± 9.1 μM (inhibiting thrombin-induced fibrinogen clotting) Target: In vitro: Using biochemical and pharmacological methods, it proves that chikusetsusaponin IVa prolongs the recalcification time, prothrombin time, activated partial thromboplastin time, and thrombin time of normal human plasma in a dose-dependent manner; inhibits the amidolytic activity of thrombin and factor Xa upon synthetic substrates S2238 and S2222; inhibits thrombin-induced

fibrinogen clotting (50% inhibition concentration, 199.4 ± 9.1 μM); inhibits thrombin- and collagen-induced platelet aggregation. Chikusetsusaponin IVa can also preferentially inhibits thrombin in a competitive manner (K(i)=219.6 μM) [1]. Chikusetsusaponin IVa suppresses the production of iNOS, COX-2, IL-1β, IL-6, and TNF-α in LPS-stimulated THP-1 cells likely by inhibiting NF-κB activation and ERK, JNK, and p38 signal pathway phosphorylation [2].In vivo: Studies were performed on type 2 diabetic mellitus (T2DM) rats given CHS for 28 days to test the antihyperglycemic activity. Oral administration of CHS dose-dependently increased the level of serum insulin and decreased the rise in blood glucose level [3].

CUSTOMER VALIDATION

- Pharmacol Res. 2020 May;155:104751.

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REFERENCES

[1]. Wang H, et al.Inhibitory effects of Chikusetsusaponin IVa on lipopolysaccharide-induced pro-inflammatory responses in THP-1 cells. Int J Immunopathol Pharmacol. 2015 Jul 8.

[2]. Cui J, et al. Insulinotropic effect of Chikusetsu saponin IVa in diabetic rats and pancreatic β-cells. J Ethnopharmacol. 2015 Apr 22;164:334-9.

[3]. Li Y, et al. Chikusetsu saponin IVa regulates glucose uptake and fatty acid oxidation: implications in antihyperglycemic and hypolipidemic effects. J Pharm Pharmacol. 2015 Jul;67(7):997-1007.

[4]. Dahmer T, et al. Antithrombotic effect of chikusetsusaponin IVa isolated from Ilex paraguariensis (Maté). J Med Food. 2012 Dec;15(12):1073-80.

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