Data Sheet (Cat.No.TN3260)

TargetMol
A DRUG SCREENING EXPERT

8(14),15-Isopimaradien-3-ol

Chemical Properties

CAS No.:	4728-30-7
Formula:	C20H32O
Molecular Weight:	288.5
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	ent-8(14),15-pimaradien-3beta-ol (8(14),15-Isopimaradien-3-ol) can induce vascular relaxation. It displays high antibacterial activities (MIC values lower than 10 microg /mL for most pathogens).
Targets(IC_{50})	Antifection: None Calcium Channel: None NO: None
In vitro	Pimarane-type diterpenes were described to exert antispasmodic and relaxant activities. Based on this observation we hypothesized that the diterpene ent-8(14),15-pimaradien-3beta-ol (ent-8(14),15-Isopimaradien-3-ol,PA-3beta-ol) induced vascular relaxation. With this purpose, the present work investigates the mechanisms involved in the vasorelaxant effect of the pimarane-type diterpene PA-3beta-ol. METHODS AND RESULTS: Vascular reactivity experiments, using standard muscle bath procedures, were performed in isolated aortic rings from male Wistar rats. Cytosolic calcium concentration ([Ca(2+)]c) was measured by confocal microscopy using the fluorescent probe Fluo-3AM. PA-3beta-ol (10, 50 and 100 micromol/l) inhibited phenylephrine and KCl-induced contraction in either endothelium-intact or denuded rat aortic rings. PA-3beta-ol also reduced CaCl(2)-induced contraction in Ca(2+)-free solution containing KCl (30 mmol/l) or phenylephrine (0.1 micromol/l). PA-3beta-ol (1-300 micromol/l) concentration dependently relaxed phenylephrine-pre-contracted rings with intact or denuded endothelium. The diterpene also relaxed KCl-pre-contracted rings with intact or denuded endothelium. Moreover, Ca(2+) mobilization study showed that PA-3beta-ol (100 micromol/l) and verapamil (1 micromol/l) inhibited the increase in Ca(2+)-concentration in smooth muscle and endothelial cells induced by phenylephrine (10 micromol/l) or KCl (60 mmol/l). Pre-incubation of intact or denuded aortic rings with N(G)-nitro-l-arginine methyl ester (L-NAME, 100 micromol/l) and 1H-[1,2,4]Oxadiazolo[4,3-a]quinoxalin-1-one (ODQ, 1 micromol/l) produced a rightward displacement of the PA-3beta-ol concentration-response curves. On the other hand, 7-nitroindazole (100 micromol/l), 1400 W (1 micromol/l), indomethacin (10 micromol/l) and tetraethylammonium (1 mmol/l) did not affect PA-3beta-ol-induced relaxation. CONCLUSIONS: Collectively, our results provide evidence that the effects elicited by PA-3beta-ol involve extracellular Ca(2+) influx blockade. Its effects are also partly mediated by the activation of NO-cGMP pathway.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.466 mL	17.331 mL	34.662 mL
5 mM	0.693 mL	3.466 mL	6.932 mL
10 mM	0.347 mL	1.733 mL	3.466 mL
50 mM	0.069 mL	0.347 mL	0.693 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Mechanisms underlying the vasorelaxant action of the pimarane ent-8(14),15-pimaradien-3beta-ol in the isolated rat aorta. Eur J Pharmacol. 2009 Aug 15;616(1-3):183-91.

2. Antimicrobial ent-pimarane diterpenes from Viguiera arenaria against Gram-positive bacteria. Fitoterapia. 2009 Oct;80(7):432-6.

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