Data Sheet (Cat.No.TN3379)

TargetMol
A DRUG SCREENING EXPERT

Allocryptopine

Chemical Properties

CAS No.:	24240-04-8
Formula:	C21H23NO5
Molecular Weight:	369.4
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Allocryptopine has certain effects on anti-injury for hepatocyte, ameliorating liver function, and prohibiting hepatic fibrosis; it increases mRNA levels of cytochromes P450 1A in human hepatocytes and HepG2 cells independently of AhR. Allocryptopine induces a relaxing effect on the ileum by inhibiting phosphodiesterase enzyme, and thus elevating cellular cAMP and its contractile effect on the urinary bladder by affecting alpha-adrenergic receptors in this tissue, it can block human ether-a-go-go related gene (hERG) potassium channels expressed in HEK293 cells.
Targets(IC_{50})	cAMP: None CYP17: None Potassium channel: None
In vitro	Allocryptopine (ALL) is an alkaloid extracted from Corydalis decumbens (Thunb) Pers. Papaveraceae, whereas benzyltetrahydropalmatine (BTHP) is a derivative of tetrahydropalmatine extracted from Corydalis ambigua (Pall) Cham et Schlecht. The aim of this study was to investigate the effects of ALL and BTHP on the human ether-a-go-go related gene (hERG) current expressed in HEK293 cells. METHODS AND RESULTS: Cultured HEK293 cells were transiently transfected with hERG channel cDNA plasmid pcDNA3.1 using Lipofectamine. The whole-cell current IHERG was evoked and recorded using Axon MultiClamp 700B amplifier. The drugs were applied via supserfusion. Both ALL and BTHP reversibly suppressed the amplitude and density of IHERG in concentration- and voltage-dependent manners (the respective IC50 value was 49.65 and 22.38 μmol/L). BTHP (30 μmol/L) caused a significant negative shift of the steady-state inactivation curve of IHERG, while ALL (30 μmol/L) did not affect the steady-state inactivation of IHERG. Furthermore, BTHP, but not ALL, shortened the time constants of fast inactivation and slow time constants of deactivation of IHERG. But both the drugs markedly lengthened the time constants for recovery of IHERG from inactivation. Using action potential waveform pulses, it was found that both the drugs at 30 μmol/L significantly suppressed the current densities in the late phase of action potential, but did not significantly affect the current densities in the early phase of action potential. CONCLUSIONS: Both ALL and BTHP derived from Chinese herbs potently block hERG current.

Solubility Information

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

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.707 mL	13.535 mL	27.071 mL
5 mM	0.541 mL	2.707 mL	5.414 mL
10 mM	0.271 mL	1.354 mL	2.707 mL
50 mM	0.054 mL	0.271 mL	0.541 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. Allocryptopine and benzyltetrahydropalmatine block hERG potassium channels expressed in HEK293 cells. Acta Pharmacol Sin. 2013 Jun;34(6):847-58.

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