

Marinobufogenin

Chemical Properties

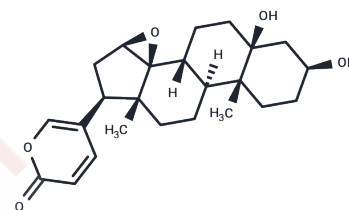
CAS No. : 470-42-8

Formula: C₂₄H₃₂O₅

Molecular Weight: 400.51

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Marinobufagenin, a cardiotonic steroid, its increased concentrations are important in the cardiac disease and oxidant stress state seen with renal failure.
Targets(IC50)	ATPase,EGFR
In vitro	In vivo studies were performed using the 5/6th nephrectomy model of experimental renal failure (PNx), MBG infusion (MBG), PNx after immunization against MBG, and concomitant PNx and adrenalectomy. Physiological measurements with a Millar catheter and immunohistochemistry were performed. In vitro studies were then pursued with cultured isolated cardiac fibroblasts. We observed that PNx and MBG increased MBG levels, blood pressure, heart size, impaired diastolic function, and caused cardiac fibrosis. PNx after immunization against MBG and concomitant PNx and adrenalectomy had similar blood pressure as PNx but less cardiac hypertrophy, diastolic dysfunction, and cardiac fibrosis. MBG induced increases in procollagen-1 expression by cultured cardiac fibroblasts at 1 nM concentration. These increases in procollagen expression were accompanied by increases in collagen translation and increases in procollagen-1 mRNA without any demonstrable increase in procollagen-1 protein stability. The stimulation of fibroblasts with MBG could be prevented by administration of inhibitors of tyrosine phosphorylation, Src activation, epidermal growth factor receptor transactivation, and N-acetyl cysteine.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4968 mL	12.4841 mL	24.9682 mL
5 mM	0.4994 mL	2.4968 mL	4.9936 mL
10 mM	0.2497 mL	1.2484 mL	2.4968 mL
50 mM	0.0499 mL	0.2497 mL	0.4994 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Marinobufagenin stimulates fibroblast collagen production and causes fibrosis in experimental uremic cardiomyopathy. Hypertension. 2007 Jan;49(1):215-24.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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