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Ethnopharmacological Potential Of Marine Cardioactive Biomolecules (MCBS)

Avanedra Tiwari
Sardar Bhagawan Singh Post Graduate Institute of Biomedical Sciences and Research Balawala,Dehradun,Uttrakhand, India

Dr.Luv Kush
Sardar Bhagawan Singh Post Graduate Institute of Biomedical Sciences and Research Balawala,Dehradun,Uttrakhand, India

Abstract:

Biomedications of natural origin represent conventional therapies through indigenous formulations.MCBs have antianginal, antiarrhythmic, antihyperlipidemic, antihypertensive, and cardiotonic activities. Their structural uniqueness was explored for possible novel modes of action.

1.Introduction

The structural chemistry of marine cardioactive biomolecules includes .alkaloids,amino acids ,amines nucleosides ,peptides,prostaglandins,quinols and quinones,tannins,and toxins.They have common cardio-vascular activities. Their ethnopharmacological potential was elucidated .

2. Theoretical Methodology

The chemopharmacological aspects of eighteen MCBs were reviewed.(Table one)

No.	MCBs	Biological source	Structural uniqueness	Bioactivities	Ref.
1	Aaptamine	Aaptos aaptos	Tricyclic quinolone type alkaloid with unsaturated piperidyl function	antihypertensive	2
2	Anthopleurine A,B,and C	Anthopleura xanthogrammica	Polypeptide structures have prominence of disulphide bridges	cardiotonic	3
3	Autonomium chloride	Verongia fistularis	Mimics acetyle choline dibromophenolic moiety	cardiotonic	4
4	Dieckol	Ecklonia stalonifera	6 phenolic moiety which are interlinked by dioxolane oxygen	Antihypertensive and antihyperlipidemic	5
5	Dieckol	Anisodoris digitata	n-methyl isoguanosine	Antihypertensive	1
6	ECKOL	Ecklonia stalonifera	3-phenolic moieties which are interlinked by dioxolane oxygen	Antihypertensive and antihyperlipidemic	5
7	Eledosine	Eledone	Unique polypeptide	Antihypertensive	6

		moschata	character with pyrrolidine and thioalkyl functionality		
8	Halenaquinol	Petrosia seriata	Phenanthyrylene type pentacyclic structure fused with furan and quinol ring	cardiotonic	7
9	Hymenin	Hymeniacidon aldis	2-oxo-azapine with 2,3-dibromopyrrole	Antihypertensive	8
10	Laminin	Laminaria angustata	Chiral amino acids with trimethyl cationic head (mimics the chemistry of neuro transmitters)	Antihypertensive and cardiotonic	9

11.	1-methyl isoguanosine	Anisodoris digitata	1-methyl-2-oxo-1,2-dihydroadenosine	Antihypertensive	1
12.	Octopamine	Octopus vulgaris	Adrenomimetic with phenolic functionalities	Cardiotonic	10
13.	Phlorofucofuroec—kol	Ecklonia stalonnifera	5-phenolic which are interlinked through ethereal dioxolane oxygen and furan rings	Antihypertensive antihyperlipidemic cardiotonic	5

14.	Saxitoxin	Ganyanlax catenella	Structurally unique structural having purine heterocyclic fused with tetrahydropyrrole ring	Antihyperlipidemic	11
15.	Spongosine	Cryptotethia crypta	Unique purine base having piperidyl-6 membered heterocyclic ring	Antihypertensive	12
16.	Spongouridine	Tethya crypta	Uracil +beta-D-arbinose	Antihyperlipidemic	13
17.	Tetrodotoxine	Hapalochlaena	With Unique cage structural having pyrimidyl group	Antihyperlipidemic Antihypertensive	14
18.	Xestoquinone	Xestospongia sapra	Phenanthyrylene type pentacyclic structure having quinone type of ring A	Cardiotonic	15

Table 1: Ethnopharmaccological profile of MCBs

3.Result And Conclusion

The most fascinating finding is that they lack conventional chemistry of cardioactive phytomolecules and mimic the structural features of neurotransmitters , neuropeptides ,and DNA bases .The.cardiopharmacological symbiosis is an interesting clue for novel modes of action for cardisc drugs.They are potential candidates for the development of cardiovascular drugs.

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