NC/APTRI-2017/GCTS/OR-47

Marine Organisms as a Source of New Anticancer Agents – Discovery, Development and Perspectives

Saumendu Deb Roy[1]*, Arijit Gandhi[2], Chandrani Roy[2]

[1] Department of pharmacognosy, Bengal College of Pharmaceutical Science & Research, B.R.B. Sarani, Bidhannagar, Burdwan, Durgapur, West Bengal 713212, India.

[2] Department of pharmaceutics, Bengal College of Pharmaceutical Science & Research, B.R.B. Sarani, Bidhannagar, Burdwan, Durgapur, West Bengal 713212, India.

Abstract

The marine organisms provide a rich source of nutraceuticals and potential candidates for the treatment of several human cancers. Over the past decade, several new experimental anticancer agents derived from marine sources have entered preclinical and clinical trials. This field has expanded significantly as a result of improvements in the technology of deep-sea collection, extraction, and large-scale production through aquaculture and synthesis. They are taxonomically diverse, largely productive, biologically active, and chemically unique offering a great scope for discovery of new anticancer drugs. The phytochemicals possibly activate macrophages, induce apoptosis, and prevent oxidative damage of DNA, thereby controlling carcinogenesis. These marine-derived compounds are extremely potent in culture, with inhibitory concentrations generally in the nanogram range. Cytarabine, Gemcitabine, Didemnin B, Aplidine, Ecteinascidin, Dolastatin, Bryostatin-1 etc. are promising anti cancer agents from marine resources.

NC/APTRI-2017/GCTS/OR-48

Brain Targeting Improvised Nanoliposomes

Amitabha Ghosh*, Suvendu Nandi, Souvik Basak,

Dr B.C. Roy College of Pharmacy & Allied Health Sciences (BCRCP).

Durgapur, Burdwan, West Bengal, India. *E-mail- ghoshamitabha77@gmail.com

Abstract

Meningitis, most lethal disease. Limitation of meningitis treatment is passage of drug through blood brain barrier(BBB). Meropenem is effectively used against meningitis. We designed value added formulation of meropenem in order to improve its release profile as well as its permeation through BBB. Crossing BBB is the major bottleneck for reaching the drug to CNS. Lipidcarrier based bilayer Nanoliposomes has been formulated where the lipidcarrier has been conjugation of soya lecithin and cholesterol. Photographic study reveals that bilayer Nanoliposomes has been successfully prepared, about 80% of the drug has been successfully entrapped within the liposome. DLS study exhibited bimodal distribution of particle with size ranges 100nm and 400-500nm. Zeta potential measurements reveals good stability of formulation. FTIR studies reveal that meropenem has been successfully entrapped within the liposome with cholesterol being the outer lipid carrier. In-vitro release displays about 5 times improvement of the drug from liposome compared to free drug and permeation through BBB. In-vitro microbioassay suggest that the liposomal drug delivery system efficiently inhibits the microbial growth.

NC/APTRI-2017/GCTS/04

National Conference
on
"ADVANCES IN PHARMACEUTICAL TECHNOLOGY & REGULATORY ISSUES"

Organized by

Gupta College of Technological Sciences

(APTRI-2017)

21st May, 2017

Alumni Association, GCTS

Best Paper Award

is conferred upon

Amitabha Ghosh

for oral presentation of the paper titled

Brain targeting nano-liposomes of meropenem for effective meningitis therapy : An in-vitro simulation

co-authored with

Dr. Sauvik Basak, Asst. Professor, BCRCP, Durgapur

held at

Gupta College of Technological Sciences, Ashram More, G.T. Road, Asansol,W.B.,India

Sougata Jana
Mr. Sougata Jana
Convener, APTRI 2017
Gupta College of Technological Sciences

Dr. Kalyan Kumar Sen
Principal & Organizing Secretary
Gupta College of Technological Sciences

Dr. Arup Mukherjee
Professor, Department of Chemical Technology
University of Calcutta

Dr. Subhash C. Mandal
Chairman, Regulatory Affairs,
Indian Pharmaceutical Association

Susmita Chakraborty
Mrs. Susmita Chakraborty
Chairman, Trinity Trust
Gupta College of Technological Sciences