

4th World Congress on Cancer Science & Therapy

October 20-22, 2014 DoubleTree by Hilton Hotel Chicago-North Shore Conference Center, USA

Nature, an endless medicinal bowl

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Not only from ancient days, even before the evolution of human beings, nature is helping us. It helps us in almost all aspects of daily life. But unfortunately because of industrialisation and mechanistic life of human beings resulted in depletion of their lifetime. Still nature is showing its own way to get rid of it. As a part of phytochemical investigation of few mangroves like *Barringtonia acutangula* and *Bruguiera cylindrica*, we isolated few bioactive compounds which could heal some of major health problems faced by humans now-a-days. The plant-derived triterpenoids are commonly used for medicinal purposes in many Asian countries. It has been estimated that more than 20,000 triterpenoids exist in nature. They can further be subclassified into diverse groups including cucurbitanes, cycloartanes, dammaranes, euphanes, friedelanes, holostanes, hopanes, isomalabaricanes, lanostanes, limonoids, lupanes, oleananes, protostanes, squalenes, tirucallanes, ursanes and miscellaneous compounds. Triterpenoids have recently emerged as a unique group of phytochemicals with multifunctional anticancer activities as demonstrated by promising results in preclinical studies. Triterpenoids exert a plethora of biological activities including suppression of inflammation, reduction of oxidative stress, regulation of cell cycle, inhibition of cell proliferation, induction of apoptosis, and interaction with tumor microenvironment through modulation of multiple signal transduction pathways.

Compounds isolated from *Barringtonia acutangula*: From the chloroform extract of the fruits of *B.acutangula* we could isolate three new compounds and one of them showed prominent cytotoxic activity on the cell lines namely: MDA-MB-231, K-562, and HL-60 cell lines. As part of exploring bio-markers from Indian mangrove flora, we report the isolation and structure elucidation of three new acylated triterpenoids termed racemosol C, racemosol D and 15-deoxy racemosol D along with known metabolites racemosol A and isoracemosol A from fruits of *Barringtonia acutangula*.

Compounds isolated from *Bruguiera cylindrica*: From the Acetone extract of the bark of *B.sexangula*, HIV-1 Integrase inhibitors namely Integracin A and Integracin B are isolated which also prone to have cytotoxic and anti hepatic activity. As they are highly bioactive even we are planning to synthesise their chiral isomers in bulk scale to do further studies on them.

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