OMICS Group Conferences
Accelerating Scientific Discovery

International Conference and Exhibition on
Pharmacognosy, Phytochemistry & Natural Products
October 21-23, 2013 Radisson Blu Plaza Hotel, Hyderabad, India

Apoptosis in the human laryngeal carcinoma (Hep-2) cell line by *Bulbine natalensis* and *B. frutescens* fractions

Lalini Reddy and Singh Rishan
Durban University of Technology, South Africa

Many plants that belong to the genus *Bulbine* have compounds in their roots and leaves which are considered important for traditional treatments. The stems and roots of *Bulbine* species are believed to contain anticancer compounds such as anthraquinones, including chrysophanol and knipholone. However, in general, people utilise plants of the *Bulbine* genus for the treatment of rashes, itches, wounds, burns, cracked lips and cracked skin. This study assessed the effect of aqueous and organic fractions of *Bulbine natalensis* and *Bulbine frutescens* on the human laryngeal carcinoma cell line (HEp-2) for apoptosis. The MTT assay was used to determine the cytotoxicity of the fractions administered and to select fractions for analysis of bax and caspase-3 gene expression, which are induced during programmed cell death type 1, known as apoptosis. All of the *B. natalensis* fractions induced expression of caspase-3, while the tested *B. frutescens* aqueous root fractions failed to induce expression of caspase-3. The variation in bax gene expression indicated that HEp-2 cell death was due to apoptosis and other unknown forms of cell death that may or may not activate caspase-3 gene expression.

Biography

Lalini Reddy has completed her doctorate degree in Biotechnology at the age of 41 years from Durban University of Technology. She has been a faculty member teaching undergraduate and supervising postgraduate students for the last 26 years. She has published in highly reputable peer-reviewed journals and has served as a reviewer for several journals. She has surveyed more than 30 traditional South African plants for their medicinal potential.