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

Synthesis of novel quinazolinone-coumarins as anticancer agents

V. Sumathi and A. K. D. Bhavani
University College of Science,India

Coumarins have played a very important role in natural product chemistry due to their physiological, bacteriostatic and antitumor activities. For example, coumarin and 7-hydroxycoumarin compounds like wedelolactone isolated from *Wedelia catendulacea* are well known for curing jaundice. Like dicoumarol as anticoagulant, umbelliferane as fishtoxicity, novobiocin isolated from streptomyces species as antimicrobial agents are well known in the literature. Both coumarin and coumarin derivatives act as potential inhibitors in various carcinoma cell lines.

On the other hand, quinazoline containing natural products also act as antimicrobial, antitumor agents. For example, sclerotigenin isolated from *Pencillium sclerotigenum* act as anti-insectant, circumdatin H isolated from *Aspergillus ostianus* strain act as a human mitochondrial NADH oxidase inhibitor and luotonin isolated from *Peganum nigellastrum* Bunge act as antitumor agent.

In view of the promising biological activities of coumarins & quinazolinones, we planned to synthesize the target molecule containing both scaffolds and screen the target molecules for anticancer activity.

The target molecules; 2-Amino-4-(4-O-benzyl-quinazoline)-4,5-dihydo-5-oxopyrano[3,2-c]chrome-3-ehtyl esters were synthesized using multi component Knovengal Michael type reaction. 2-Formyl-4-O-benzylquinazolin-4(3H)-one, substituted 4-hydroxycoumarin and ethyl cyanoacetate in ethanol using (10 mol %) DABCO under refluxing conditions furnished the target molecules- 2-Amino-4-(4-O-benzyl-quinazoline)-4,5-dihydo-5-oxopyrano[3,2-c]chrome-3-ehtyl esters. These compounds were screened for anticancer activity using MDA-MB 231, MDA-MB 453 cell lines, and these compounds exhibited the promising antitumor activity against breast cancer.