J Biotechnol Biomater 2015, 5:6
http://dx.doi.org/10.4172/2155-952X.C1.044

OMICS International
conferenceseries.com

6th World Congress on
Biotechnology
October 05-07, 2015 New Delhi, India

Synergistic formulation for chemoprevention of hepatocellular carcinoma

Savita Mishra and **Deepshikha Pande Katare**
Amity University, India

Chemoprevention is a rapidly evolving field in cancer management. It comprises administration of natural, biological or synthetic agents that have the ability to inhibit, reverse, delay or hinder the tumorigenesis process and also prevent transformation of benign cells to malignant cells. Hepatocellular carcinoma (HCC, a third most prevalent cancer) is chronic inflammation related cancer with no potent therapeutic treatments. Natural products such as vitamin and plant derived secondary metabolites (Vitamins, chalcone, polyphenols, alkaloids, terpenes, etc.) has ability to interrupt the biological processes that are involved in carcinogenesis. These compounds can also protect normal cell from the side effect of cytotoxic drugs which are used in the treatment of cancer. Combination of the secondary metabolites compounds with the synthetic drugs can assure lesser side effects with maximum efficacy. Our *in vitro* studies reports a combinational synergistic formulation to reduce tumorigenic cell growth and restoring the cellular enzyme at normal level. Simultaneously *in silco* results also suggest that these compounds can be potent ligands for targeting HCC related receptors.

savitasav1986@gmail.com

Pathway Modeling of Prostate Cancer, Breast Cancer and TuberculosisBKBK

BK Malik[1], Sunkara Mounika[2], Vaishali Chakraborty[2], Yogesh Kumar Jakhar[2], Poonam Malik[2], Neha Malik[3], Uzma Khanam[2], Nameet Kaur[1] and **Mustafa Alhajiisa[1]**
[1]Sharda University, India
[2]Amity University Noida, UP, India
[3]Northwestern University Chicago, USA

Pathway modeling gives us a view of the natural systems and their interactions and helps to generate new hypothesis. The present study focuses on the analysis of pathways involvedin Breast cancer and Prostate cancer.The hypersensitivity pathway responsible for Androgen Independent Prostate Cancer showed that the enzyme 5-α-reductase is the key regulator of this pathway. Hence, if this enzyme is targeted from the drug development aspect it may help to combat prostate cancer. Similarly, by reducing the concentration of homocysteine and controlling the low levels of folate in the metabolic pathways with respect to time course would help to control the breast cancer risk in women. Here, the COPASI model is used to know the pathway modelling of particular pathway which would help in altering the malfunctioning of the pathway. As the pathway modelling completely based on the time course and concentration levels, the amount risk factors can be controlled with equal maintenance of time and concentrations.Tuberculosis, caused by Mycobacterium tuberculosis is one of the main diseases to mankind. Designing of appropriate antimicrobial agents depend upon the novel drug targets of pathogen. COPASI model has been used for the simulation and modeling of shikimate pathway. The shikimate pathway starts from condensation of 2-phosphoenolpyruvate and D-erythrose-4- phosphate to chorismate.Chorismate is the only precursor for the amino acid biosynthesis in this pathogen.The validated kinetic model can be used to determine the contribution of each enzyme to the final product formation rate, to profile intermediate concentrations, and predict responses to inhibition effects. Using the model, conditions most appropriate for high-throughput screening can be optimized.

bk.malik@sharda.ac.in