

International Conference and Expo on **Drug Discovery & Designing**

August 11-13, 2015 Frankfurt, Germany

Potential co-targets of isoniazid from protein-protein interaction network analysis

Tilahun Melak and Sunita Gakkhar
IIT Roorkee, India

Background: Tuberculosis (TB) is overwhelmingly a serious global public health problem by being the cause of mortality and morbidity of millions every year. This is mainly due to the emergence of drug-resistance varieties of TB. In spite of the implementations of several strategies, the resistance forms are still in rise and drug resistance remains the main threat for management, control and eradication programs of TB. As a result one approach to deal with the problem is protecting the emergence of resistance. In this analysis, maximum flow approach has been used to identify potential co-targets for isoniazid which is one of the most widely used drug for the treatment of TB.

Results: A weighted proteome interaction network for Mycobacterium tuberculosis H37Rv was constructed using a dataset from STRING database. Drug targets of isoniazid have been taken as source node and a curated list of set of genes involved in intrinsic and extrinsic drug resistance mechanisms was taken as a sink node. Then, the flows from drug targets to resistance genes were calculated. The proteins were ranked according to their maximum flow value to the sink node.

Conclusion: List of proteins which have strong influence on the resistance genes were proposed as potential co-targets for isoniazid. It has been implemented with maximum flow approach through identifying the flow of all proteins to resistance genes from the drug target proteins. Through this, we will be able to tackle the problem of the emergence of resistance at the initial phase of rational drug discovery process. We believe that the identified co-targets will be an important input to experimental study which in the way could save considerable amount of time and cost of drug discovery.

the_melak@yahoo.com

A new broad spectrum herbal drug that cures human candidiasis

Udai Pratap Singh, Mandavi Singh and Ravi Vikram Singh
Banaras Hindu University, India

Candidiasis, candidosis, moniliasis, oidiomycosis or thrush is a fungal infection (mycosis) caused by Candida species, of which Candida albicans is the most common. This disease is also commonly known as yeast infection. The symptoms range from superficial, e.g., oral thrush and vaginitis to systemic that may be life threatening disease referred to as candidemia which is seen in persons with low immunity. People who suffer from superficial infections of skin and mucosal membranes feel local inflammation and discomfort. Different types of symptoms such as redness, itching and discomfort are witnessed but if the disease is left untreated it may lead to complications even may be fatal. Candidiasis remains localized in the skin or mucosal membranes, including the oral cavity (thrush), the pharynx or esophagus, the gastrointestinal tract, the urinary bladder or the genitalia (vagina, penis) in immunocompetent persons. In case of fungemia called candidemia, Candida infections can affect the esophagus with the potential of becoming systemic causing a much more serious condition. Thrush is commonly seen in infants.

upneem@gmail.com