

In-silico Identification of Metal Transporter Genes from *Mycobacteria* Sp.

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ABSTRACT

Mycobacterium is immovable; induce aerobic, acid-fast gram-positive bacilli with high genomic content (59-66%). In the operon structure frequently establish for the genes of three molecular components: the ABC-binding protein, the membrane protein, and the substrate-binding protein, the rates of multidrug resistant and metal ions. The main objective of this study was to analyze the metal ions from five *Mycobacterium* species and to recognize the metal transporters with “Genomic Island” associated features, Insilico analysis allowed identification of metal and drug transporters, phylogenetic analysis, genomic island path analysis, prediction of interacting metal ions & 3D structure, domain analysis & for the NiCoT metal transporter from *Mycobacterium tuberculosis*. Interestingly, many genes showed specific expression profiles that might suggest a role in accumulating metals in an organ specific manner. These data are the first results of a big frame project that aims to accelerate the prioritizing of gene candidates that control element accumulation by taking advantage of high-throughput. The present *Insilico* study reveals the complete suite of NiCoT Metal Transporter in *Mycobacterium tuberculosis* H37Rv, which is involved in urease enzyme activity and biological function. The STRING analysis defines that the functional partners involved in transport of metal ions. While high expression yields of membrane proteins remain significant bottleneck for many proteins.

INTRODUCTION

In recent years the complete genome sequences of versatile organisms from the three domains of life are rapidly accumulating. “It is now possible to attempt to reconstruct and analyze a complete set of biochemical reaction pathways that an organism adopts, especially on the transport, synthesis, and degradation of specific chemical compounds. Through comparative studies, metal ions play a life preserve role in prokaryotic metabolism. Biological management of metal ions is skilled by a complex interplay between metal ion and drug transporters (transmembrane importers, transmembrane exporters) and their