PREFACE

From the point of Industrial Microbiology, it is believed and proved that, Micro organisms are considered as chemical factories in miniature. Microbes can be exploited to get various Bioactive substances. There are different classes of Bioactive substances like antimicrobials, anthelminthics, antitumor antibiotics, insecticidal, immunosuppressives, anti-cholesterolemics, vitamins, enzymes like amylases, proteases, cellulases, xylanases, gluco-isomerases, lipases etc. All these enzymes have been employed in various useful tasks successfully. Like other enzymes the target enzyme plays a significant part in neutralizing superoxide ions (Reactive Oxygen Species) by sequential oxidative and reductive reactions.

Accumulation of increased concentration of ROS result in cellular and genetic damage, and finally may cause neurodegenerative disorders, oncogenesis and senescence. The possibilities of mutagenic damage are more in Cells which are under oxidative stress. To overcome the cellular damage all aerobic organisms naturally possess mechanism to neutralize or eliminate ROS and a part of this mechanism is known as the ‘Reprogramming of gene expression’.

The research work embodied in this thesis is planned to produce Super oxide dismutase in 5 wild type yeasts. Also carried out mutations to achieve strain improvement in order to increase the productivity.
assess their antimicrobial profile. The plan of work consists of production, characterization, Amino acid sequence alignment, and other experimental details which are incorporated in seven chapters. At the end of each chapter literature citations are given.