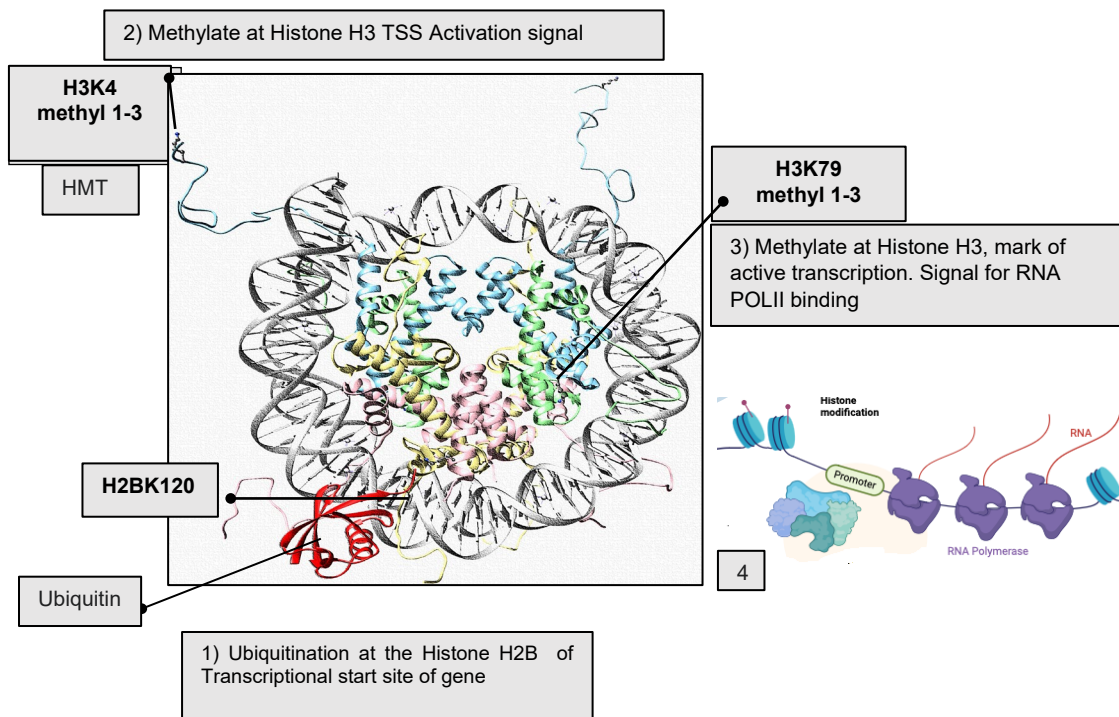


# Structural functional and regulatory studies of ubiquitin-conjugating enzymes involved in chromatin modification

## Graphical Abstract



**Principal Investigator**  
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 Associate Professor  
 Center for BioSeparation Technology (CBST)



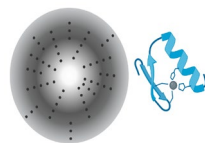
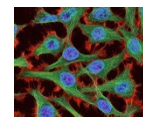
## Project Description

Protein ubiquitination controls the various biological processes. Histone ubiquitination, an epigenetic mark, governs DNA-related processes through chromatin structure and transactions. Misregulation in ubiquitination and epigenetic mechanisms are linked to numerous inherited and acquired diseases including diabetes, cancers and neurological disorders. Histone H2B monoubiquitination regulates gene transcription conserved from yeast to humans. The project focus to understand role of the histone ubiquitin-conjugating complex by using a wide range of approaches that are revealing molecular structures, mechanisms of molecular recognition, and novel signaling pathway functions. The proposed studies will provide new insights to the fields of epigenetics and cellular regulation by revealing mechanisms that regulate protein ubiquitination. It is fundamentally important for numerous cellular processes, and underlies the pathogenesis of many diseases including diabetes, stroke, sclerosis, cancers, and neurological disorders.

## Products/ Instruments/ Results/ Outreach Activities



*Saccharomyces cerevisiae* / Mammalian cells in culture



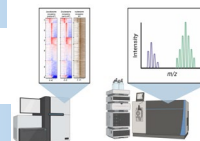
X-ray Crystallography , NMR & Cryo-EM

Drug Discovery



Genetics & Biochemistry

Epigenomics & Proteomics



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**Name of the Funding Agency**  
 Department of Biotechnology (DBT)

**Name of the Scheme**  
 Ramalingaswami Re-enter Fellowship

**Sanctioned Amount (in Rupees)**  
 Rs. 83,16,000

**Duration of the Project (years)**  
 3