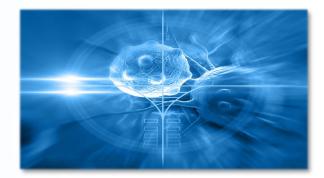
## BtBs Seminars Biotechnology and Biosciences Seminars



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## Characterization of cis-regulatory elements in inflammation and cancer

The human genome contains over 20,000 genes whose expression must be tightly regulated across time and space to ensure proper development and responses to external stimuli. Dysregulated gene expression underlies many diseases, including cancer and inflammatory disorders. While research often focuses on mutations in protein-coding regions, pathogenic changes in cis-regulatory elements like enhancers and promoters remain underexplored. These regulatory elements orchestrate gene expression through histone modification, such as acetylation, and transcription factor binding. We will discuss the mechanisms regulating acetyl-CoA production by metabolic enzymes in macrophages and its implication in inflammationassociated cancers, including myelodysplastic syndromes.

