

Siddarth Selvaraj

Ludwig Institute for Cancer Research
Bioinformatics and Systems Biology Graduate Program
University of California

Identification and Characterization of Topological Domains in Mammalian Genomes

The structural organization of the genome has a fundamental role in its function. The transcription regulatory process, for example, involves higher order chromatin structures, where transcriptional activation is frequently mediated through long range looping interactions between promoters and enhancers and accompanied by dynamic chromatin movement in the nucleus [2,3]. It has also been well recognized that heterochromatin, the highly compacted chromatin structure, drives gene silencing, while euchromatin, the open chromatin structure, promotes gene activation. As such, knowledge of the higher order chromatin structure is essential for a full understanding of transcriptional control and other nuclear processes.