BtBs Seminars Biotechnology and Biosciences Seminars



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Does Size Matter? The Intricate Interplay

between Telomere and DNA Repairs Factors

The telomere DNA-protein complex plays a crucial role in maintaining genome stability by protecting chromosome ends from loss and fusion. Specialized telomere-bound DNA factors inhibit the Non-Homologous End Joining (NHEJ) repair pathway, thus preventing terminal chromosomal fusion events. The precise molecular mechanisms by which these telomere proteins regulate the recruitment and activity of the NHEJ machinery remain poorly understood. Here, I will present novel molecular insights into how Rap1, the key protein associated with *Saccharomyces cerevisiae* telomeres, modulates the activity of two key NHEJ repair factors, the KU and MRX complexes.

