

P040 Using the *S. cerevisiae sgs1* mutant as a model system to investigate Bloom's syndrome

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Mutations in *BLM* cause the cancer-prone disorder, Bloom's syndrome (BS). *SGS1* is the budding yeast ortholog of *BLM*, and the *sgs1* mutant recapitulates many of the cellular defects observed in BS. Therefore, we are utilizing the *sgs1* mutant as a simple model system for BS. One cellular process in which both Sgs1 and BLM are implicated is homologous recombination repair (HRR). Interestingly, we are able to directly visualize unresolved HRR intermediates in *sgs1* mutants using 2-dimensional gel electrophoresis. Our ongoing aims are to develop strategies to genetically manipulate the accumulation and/or persistence of these structures, and determine the phenotypic consequences. In addition to facilitating the characterization of the abnormal structures and how/why they arise in *sgs1* mutants, we aim to extrapolate any novel findings directly to BS cells. Due to the ease of genetic manipulation of yeast cells, we are able to rapidly screen through multiple targeted/rational approaches in this organism. An overview of our recent findings will be presented.