分子細胞生物学研究所セミナー

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演題 **SMC complexes and their roles coordinating DNA repair and chromosome segregation**

日時 **2 月 10 日（水）15：00 ～ 16：30**

場所 **東京大学分子細胞生物学研究所**
生命科学総合研究所 B 棟 3 階 301 会議室

主催 **東京大学分子細胞生物学研究所**
ゲノム情報解析研究分野（連絡先：20756）

The structural maintenance of chromosomes (Smc) proteins regulate many aspects of chromosome biology and are critical for genomic integrity. Eukaryotes, carry six Smc genes in their genomes. Their products associate to form three distinct heterodimers--Smc1/3, Smc2/4, and Smc5/6. These form the core of cohesin, condensin, and the Smc5/6 complexes, respectively. Cohesin establishes and maintains sister-chromatid cohesion until all sister chromatids achieve bipolar attachment to the mitotic spindle. Condensin mediates chromosome condensation during mitosis and the Smc5/6 complex has multiple roles in DNA repair. Here I will present some of our recent studies on the three Smc complexes. On the first part of my talk I will focus on Smc5/6-dependent regulation of the Bloom/Sgs1 helicase during homologous recombination mediated repair. In the second part I will present data on the roles of condensin and cohesin during chromosome segregation, focusing in their functions on sister chromatid intertwining.