

High-resolution study of recombination in a highly polymorphic fungus *Schizophyllum commune*.

Schizophyllum commune is a species of fungus with extreme level of nucleotide polymorphism. To study the molecular details of recombination in this species, we obtained NGS data for two individuals from two distinct populations (Moscow, Russia and Ann Arbor, MI), and for 17 their F1 offspring. The genome-average synonymous nucleotide difference between parents was 18.8%. We detected 39 reliable crossing-over events. In contrast to humans, crossovers in *S. commune* tend to occur within genes, and in regions of locally reduced polymorphism levels: the distance between SNPs that mark the crossover between parents (crossover region) is 6 larger higher than the mean distance between SNPs in the adjacent regions. Furthermore, crossover regions have a ~10% higher GC content, compared with the adjacent regions, and correspond to regions of high differences in GC-content between parents.