

A DNA topoisomerase VI-like complex initiates meiotic recombination

The SPO11 protein catalyzes the formation of meiotic DNA double strand breaks (DSBs) and is homologous to the A subunit of an archaeal topoisomerase (topo VI). Topo VI are heterotetrameric enzymes composed of two A and two B subunits, however no topo VIB involved in meiotic recombination had been identified. Here, we characterized a structural homolog of the archaeal topo VIB subunit (MTOPVIB, for Meiotic TOPoisomerase VIB-like), which is essential for meiotic DSB formation. It forms a complex with the two *A. thaliana* SPO11 orthologs required for meiotic DSB formation (SPO11-1 and SPO11-2) and is absolutely required for the formation of the SPO11-1/SPO11-2 heterodimer. These findings suggest that the catalytic core complex responsible for meiotic DSB formation in eukaryotes adopts a topo VI-like structure.

Auteur principal: GRELON, Mathilde (INRA)

Orateur: GRELON, Mathilde (INRA)