

P040 Tracking meiotic chromosome cores in rye
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Two asynaptic mutants, *sy1* and *sy9*, a desynaptic mutant *sy10*, and wild type rye (*Secale cereale*) were used in immunolocalisation experiments to reveal chromosome cores by means of antibodies raised against meiotic proteins of *Arabidopsis thaliana*, in order to elucidate the pattern of loading of orthologous proteins during synaptonemal complex (SC) assembly. The Asy1 protein, associated with SCs in *Arabidopsis*, is expressed at leptotene and disappears at diplotene in *sy1*, *sy10* and wild type rye. The Asy1p antibody tracks chromosome cores in *sy1* and *sy10*, but reveals fragments in the case of *sy9*. Close proximity of the Asy1p to the SC is confirmed by virtual co-localisation to the central element protein Zyp1 in wild type. Antibodies to the N-terminus of Zyp1p allowed visualisation of chromosome cores at presynaptic stages as well as in SCs, while anti-C-terminus of Zyp1p revealed fully synapsed regions. The mutant *sy10* lacks continuous cores recognised by anti-C terminus, while antibodies to the N-terminus uncover thin cores as in wild type. These findings raise interesting questions about the organisation of the central element, and the role of Zyp1 in homologous recognition and alignment.