

Genetic and molecular analysis of *Drosophila* telomere capping

Cenci G.¹, Raffa G.D.², Siriaco G.², Ciapponi L.², Piergentili R.², Musarò M.R.² and Gatti M.²

¹DiSTeBA, Università di Lecce, 73100 Lecce (Italy); ²Dipartimento di Genetica e Biologia Molecolare, Università di Roma “La Sapienza”, 00185 Roma (Italy).

We have undertaken a systematic study of the genes required to prevent telomeric fusions in *Drosophila*. In the past few years we isolated mutants in 10 genes required for telomere capping. Three of these genes, *pendolino* (*peo*), *caravaggio* (*cav*) and *tiziano* (*tiz*), have been characterized at the molecular level. *peo* encodes a protein that shares homology with E2 ubiquitin conjugating enzymes and localizes to several polytene chromosome bands. The *cav* gene product is the HP1/ORC Associated Protein (HOAP) that specifically accumulates at both polytene and mitotic chromosomes. *Tiz* is a putative transcription factor with two AT-hook domains, which binds multiple sites along the polytene and mitotic chromosomes. We have investigated the functional relationships between these genes and two previously identified genes required for telomere capping [*UbcD1* and *Su(var)2-5*]. The current results of these studies will be presented.