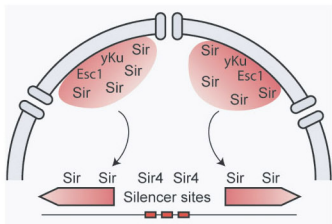


1. nucleation = Sir4 recruitment



2. anchoring



4. SIR spreading



3. increased local SIR factor concentration

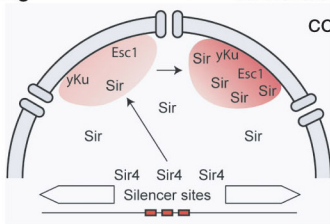


Figure 10. Spontaneous Formation of Silencing Subcompartments

A simple model for the formation of subnuclear compartments is shown. (1) Sir4 is first recruited at the nucleation center by DNA-binding proteins that can bind Sir4. These include Rap1, ORC, Abf1, and yKu. (2) The presence of Sir4 at the locus will then bring it to the nuclear periphery through one of the two Sir4-anchoring pathways (yKu or Esc1). (3) At the nuclear envelope, the high local concentrations of SIR proteins will help silencing complexes assemble and spread. (4) The ability of silent loci to remain attached at the periphery increases the local concentration of SIR proteins and reinforces the silencing of other loci within this region. Importantly, telomere-bound yKu can independently recruit telomeres to the nuclear envelope just as Sir4 recruits silencer sequences.