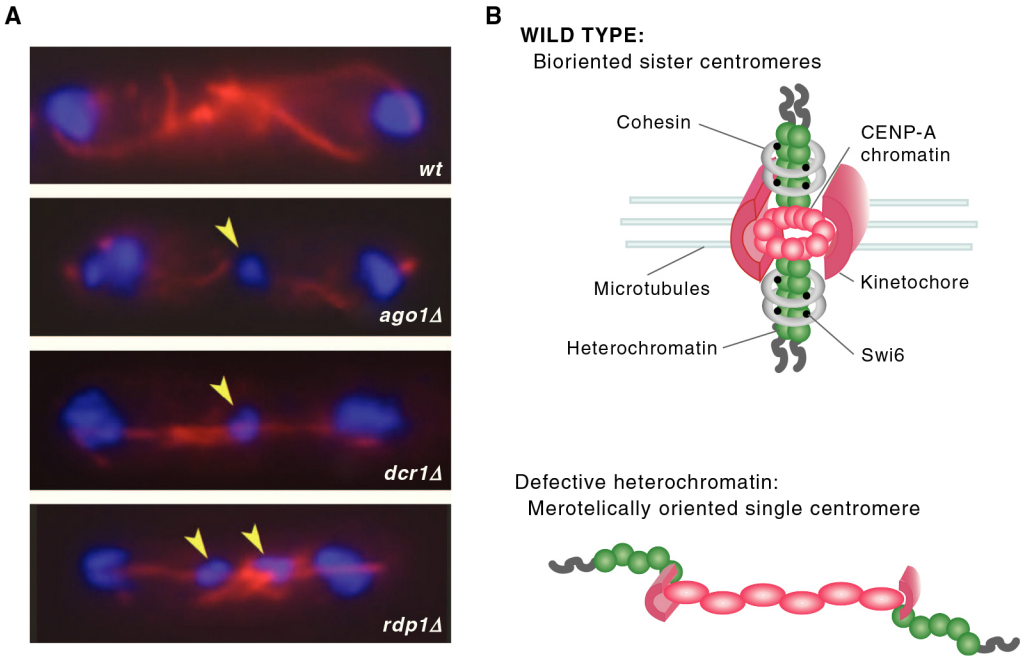

Figure 8. Defective heterochromatin leads to abnormal centromere structures. (*A*) Cells lacking RNAi or heterochromatin components display elevated rates of chromosome loss and lagging chromosomes (indicated by yellow arrows) on late anaphase spindles. Chromosomal DNA is stained by DAPI (blue) and mitotic spindle microtubules are labeled for immunofluorescence (IF) (red). (*B*) A schematic three-dimensional figure of a normal centromere illustrates the outer heterochromatin regions (green circles) decorated with Swi6 (black circles), which recruits cohesin to ensure sister-chromatid cohesion. The central domain consists of CENP-A-containing chromatin (red circles), associated with opposing kinetochores on each sister chromatid. Lagging chromosomes in cells with defective heterochromatin may be the result of disorganized kinetochores such that one centromere may attach to microtubules from opposite poles. Such merotelic orientation could persist into anaphase, in which the breakage of attachment with one pole or the other would lead to random segregation and result in chromosome loss/gain events.