



Figure S1. Schematic representation of human centromeres. The centromere sequence of human chromosomes is composed mainly of repetitive α -satellites (~171 bp sequences) organized in a head-to-tail fashion (arrows). Shown are two high order repeats (array 1: yellow squares and shown expanded by yellow arrows); array 2: purple squares and shown expanded by the purple arrows) representative of the distribution of the centromere core of chromosomes with 2 main arrays. Pericentromeric heterochromatin that flanks the centromere also contains α - and other satellites. The histone 3-like protein CENPA is enriched in the centromere core, whereas the H3K9me3 modification remains abundant at the pericentromeres. Recent studies and data presented in the present manuscript suggest that CENPA binds primarily to the unique or larger centromere array in each human centromere (array 1 in this case) and recruits kinetochore proteins necessary for spindle fiber attachment and chromosome segregation. The centromere protein CENPB binds to the CENPB boxes in α -satellites to facilitate centromere function, but also binds to other CENPA-free, pericentric loci to facilitate heterochromatin functions and chromatid adhesion.