



Figure 5. cenH3s at centromeres of eukaryotes. (A) Human neocentromeres (indicated by an arrow) lack centromeric α -satellite DNA, but have CENP-A and heterochromatin. Anti-CENP-A staining in green and Anti-CENP-B staining in red (which marks α -satellite DNA) identifies a Chromosome 4 neocentromere that lacks α -satellite (main panel). This Chromosome 4 is otherwise normal, having been transmitted for at least three meiotic generations in normal individuals. Inset shows anti-HP1 staining, which indicates that despite the lack of satellite DNA, heterochromatin forms around active neocentromeres (indicated by arrow). (Reprinted, with permission, from Amor et al. 2004a, © National Academy of Sciences.) (B) *Drosophila melanogaster* anti-cenH3 antibody (red) stains centromeres in metaphase chromosomes and throughout interphase. (Image courtesy of Suso Platero.) (C) *C. elegans* anti-cenH3 antibody (green) stains the end-to-end holocentromeres of prophase chromosomes (red). (Image courtesy of Landon Moore.)