



**Supplementary Figure 1: Pairwise sequence comparison of chr17q21.31 region among primates (continue).**

(b) Chimpanzee (top) vs. Orangutan (bottom) sequence comparison compared as described above. We observe a 170 kb segmental duplication from proximal to distal duplication block within chimpanzee but not in orangutan creating a proximal and distal copy of the core. The data suggest that the event occurred in the common ancestor of chimpanzee and human (6-12 million years ago). (c) Human assemblies of non-inverted (H1) 17q21.31 region compared against BAC-based assembly of chimpanzee (PTR) and WGS-based assembly of orangutan. (d) BAC-based sequence assembly of inverted 17q21.31 region compared against BAC-based assembly of chimpanzee (PTR) and WGS-based assembly of orangutan shows ~200 kbp of higher identity homology between analogous segmental duplications (crisscross pattern).