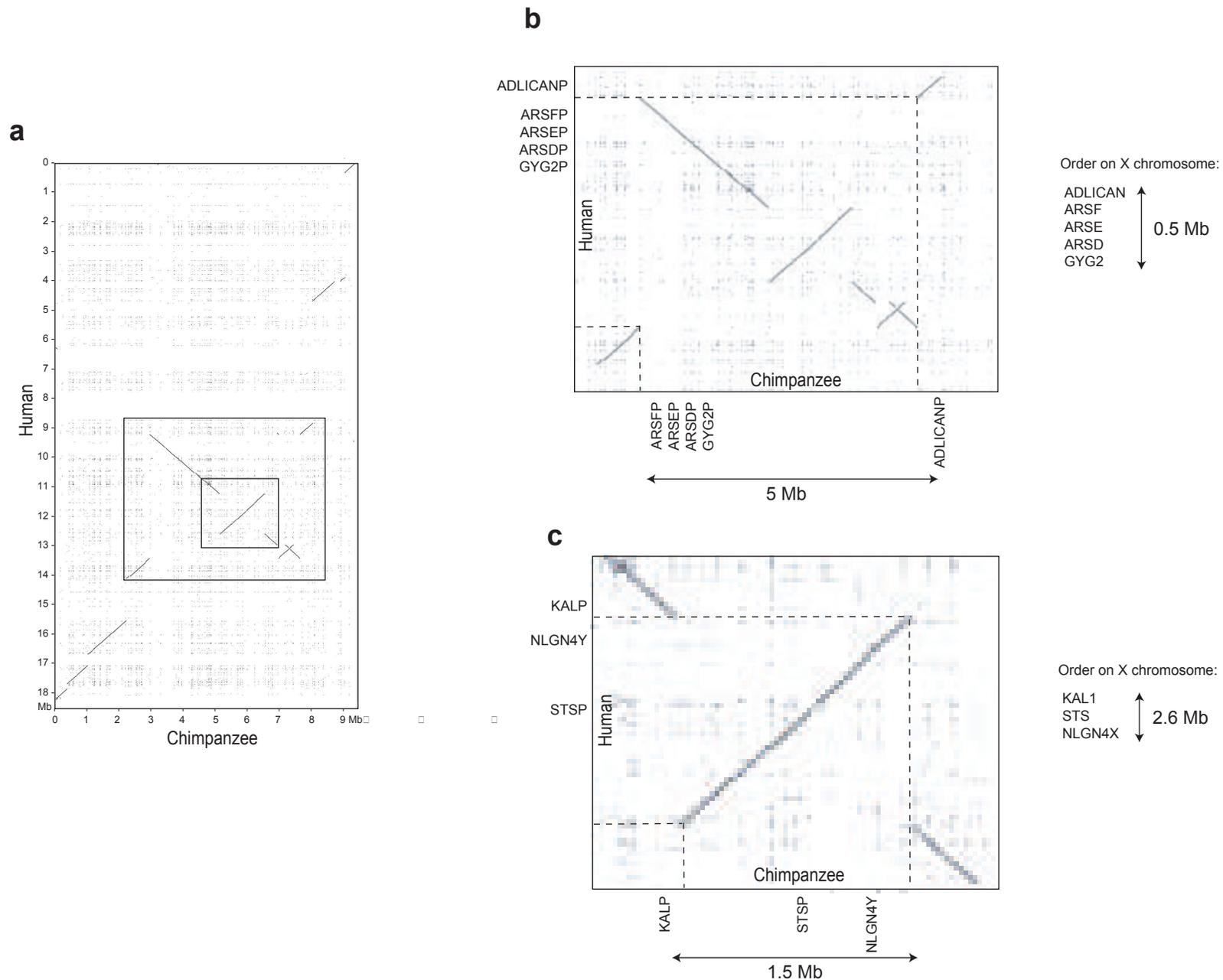


Supplementary Figure 4



Supplementary Figure 4 Gene order on the human X chromosome and the human and chimpanzee Y chromosome in the vicinity of the inversions. **a.** Dot-plot from Supplementary Figure S1. The boundaries of both the 5 Mb and 1.5 Mb inversions are boxed. **b.** Enlargement of the 5 Mb inversion. The dotted lines connect the inversion breakpoints to the axes. On each axis are the positions of the genes located within this sequence in the chimpanzee and human. To the right of the graph, the order of the corresponding human X genes is shown and the length of the sequence that these genes spans is indicated. **c.** Enlargement of the 1.5 Mb inversion. The axes are labeled as in b.

A comparison of the gene and pseudogene order within the inverted regions on the human and chimpanzee Y chromosomes to the ancestral order represented on the X chromosome supports the finding that the 5 Mb inversion occurred in the chimpanzee lineage and the 1.5 Mb inversion occurred in the human lineage.

5 Mb inversion (b): On the X chromosome, *ADL1CAN* and *ARSF* are neighbors located within 300 kb of each other, which is also the case for the corresponding pseudogenes on the human Y. However, in the chimpanzee *ARSFP* is separated from *ADL1CANP* by nearly 5 Mb.

1.5 Mb inversion (c): The gene order on the X chromosome, *KAL1*, *STS*, *NLGN4X*, is preserved on the chimpanzee Y, while in the human, the inversion disrupted this region, changing the order of the corresponding gene and pseudogenes to *KALP*, *NLGN4Y*, *STSP*.