CDB SEMINAR

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Friday, June 1, 2018

16:00-17:00 C1F CDB Auditorium

The evolutionary dynamic of early vertebrate genomes

Summary

The occurrence of two rounds of whole genome duplication is assumed to have played a major role in the origin of vertebrate body plan. However, the exact nature and timing of these as well as their actual impact on genome organisation and regulation remains elusive. To improve our understand of the vertebrate genome evolution, we used chromatin conformation information (HiC) to reconstruct chromosome-scale assemblies of several vertebrate and invertebrate chordates species including the cephalochordate amphioxus. Using this resource, we examined the evolutionary dynamics of the proto-vertebrate genome. Based on the reconstructed 17 ancient chordate synteny groups, analyses provide new insights into the rearrangements and whole genome duplication events that took place in early vertebrate evolution. The complex evolutionary history of early vertebrate genomes seemingly parallels the diversification of the many extinct lineages in the fossil record.

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