DC セミナー (国際交流基金セミナー)

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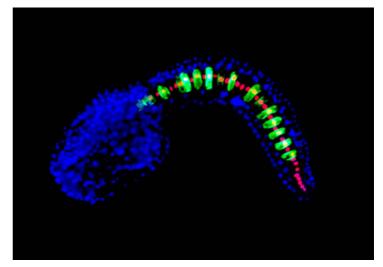
ところ: 総合研究棟2階,会議室3



題目:

Transcriptional regulation of gene expression in the primitive notochord of *Ciona*

Cis-regulatory modules (CRMs) represent a large fraction of most genomes and are known to encrypt spatial and temporal information essential for proper gene expression. Yet their structural features and architectural constraints, the molecular mechanisms controlling their interactions with transcription



factors, and the general applicability of these attributes within groups of co-regulated genes are still poorly understood.

We are trying to address these points using the ascidian *Ciona intestinalis*, an invertebrate chordate particularly suitable for the rapid dissection of CRMs. We focus primarily on studying CRMs that direct gene expression in notochord cells, since the notochord is the defining morphological trait of all chordates and plays a major role in development and patterning of all chordate body plans.

We are using two complementary approaches: the analysis of CRMs from notochord genes known to be controlled by the transcription factor Brachyury and the analysis of notochord CRMs whose activators are still unknown.

Through these studies, we have gained insights in the molecular mechanisms employed by Brachyury to control its target genes and we have identified novel notochord genes, whose developmental functions are currently being investigated.