

セミナーのご案内

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演 題：ELABELA: A Novel Hormone Essential for Pluripotency Signals via the Apelin Receptor for Heart Development

日 時：平成26年2月13日(木) 14:00～15:00

場 所：大阪大学大学院生命機能研究科、ナノ棟1F小会議室

概 要：We have isolated and characterized a conserved 32 amino-acid long hormone which we named ELABELA (ELA). Present in human embryonic stem cells, ELA controls pluripotency. In vivo, ela is expressed at the onset of zygotic transcription in zebrafish and is ubiquitous in the naive ectodermal cells of the embryo. Using zinc-finger-nuclease-mediated gene inactivation, we created an allelic series of ela mutants. ela null embryos have impaired endoderm differentiation potential marked by reduced gata5 and sox17 expression. Loss of Ela causes embryos to develop with a rudimentary heart or no heart at all, surprisingly phenocopying the loss of the apelin receptor (aplnr), which we show serves as Ela's cognate G protein-coupled receptor. Our results reveal the existence of a peptide hormone, ELA, which, together with APLNR, forms an essential signaling axis for early cardiovascular development.

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