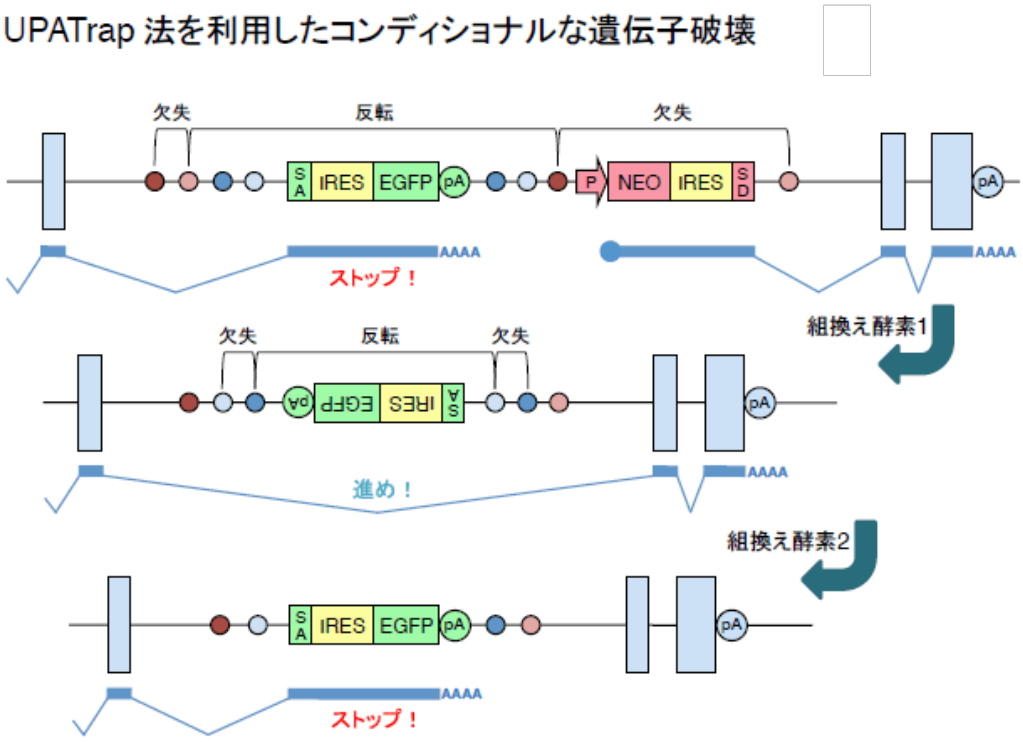
Focus	Production of conditionally gene-disrupted ES-cell clones and establishment of a database for the inactivated genes
PI	Yasumasa Ishida　Graduate School of Biological Sciences Nara Institute of Science and Technology
Period	FY2007 - 2008
Overview	The Knockout Mouse Project was launched in 2006 in Europe and North America. This collaborative effort involves broadly and unconditionally distributing to researchers the enormous number of ES-cell clones (derivatives) that have been created through disruption of all mouse genes inside the cell by using insertional mutagenesis techniques. Gene trapping, playing a pivotal role in this project, relies upon inserting short DNA fragments (trap vectors) randomly into the genome to disrupt the functions of endogenous genes. Using the conventional gene-trap method, however, it has been impossible to completely disrupt the functions of transcriptionally inactive "dormant" genes within the targeted cell (e.g., a mouse ES cell). Recently, a novel poly-A-trapping technique based on the suppression of NMD (UPATrap) has been developed in Japan, making it possible for the first time to disrupt the functions of cellular genes completely, regardless of their expression levels within the target cell. This approach has already been chosen as a standard technique in the Knockout Mouse Project in Europe and North America. In Japan, we aim to improve the UPATrap method to maximize its usefulness as a global standard technique for random insertional mutagenesis.
Progress	(written in Japanese)  図：新しいコンディショナル型 UPATrap 法の概念図 作製／樹立された変異型 ES 株に関する情報 ；http://www2.brc.riken.jp/lab/mouse_es/