

【Abstract of 2008 Grant – in – Aid for Scientific Research on Innovative Areas
(Research in a proposed research area)】

Title of project	Diversity and asymmetry achieved by RNA program (RNA Regulation)
Head Investigator Name	Toshifumi Inada
Abstract of Research Project	The flow of genetic information from DNA via mRNA to Protein has been termed the central dogma of molecular biology. The gene regulations at the level of mRNA contribute to achieve diversity of cells and asymmetric cell division. The most important mechanism to increase the variation of gene products is alternative splicing, a way to produce different mature mRNAs from a primary transcript thereby producing different proteins from a single gene. Asymmetric localization of mRNA is a conserved mechanism to generate cellular diversity during development. Aberrant mRNAs could be produced by errors in these regulations, and mRNA surveillance systems recognize and eliminate aberrant mRNAs to guarantee the accuracy of gene expression. Recent researches have revealed that these regulations are interconnected. The aim of this research project is to understand molecular mechanism of these mRNA regulations, and discover novel factors involved in the regulation.
Term of Project: 2008–2012	