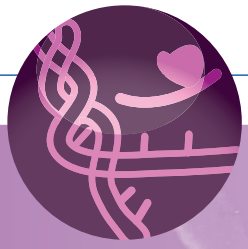

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RIP-Chip

RNA-Binding Protein Immuno-precipitation for Microarray

- Biological approach to find functionally related genes of disease pathways
- Analyze post-transcriptionally regulated genes
- Establish novel components of cellular pathways
- Identify new drug mechanisms and targets

Areas of Research

Disease responses
Cancer
Diabetes
Gene Regulation
Cell Proliferation
Early response gene products
Cell cycle components
Mitochondrial proteins (nuclear)
Spindle pole body components
Chromatin remodeling enzymes
Plasma membrane biogenesis proteins
Nucleolar regulatory components
Cytoskeletal components
Inhibitory neuronal synapse (GABA)
Carbohydrate metabolic components
Ribosomal proteins and biogenesis
Iron deficiency response
Cytokine production during T cell activation
Stem cell development
Circadian rhythms

• GENE EXPRESSION TOOL

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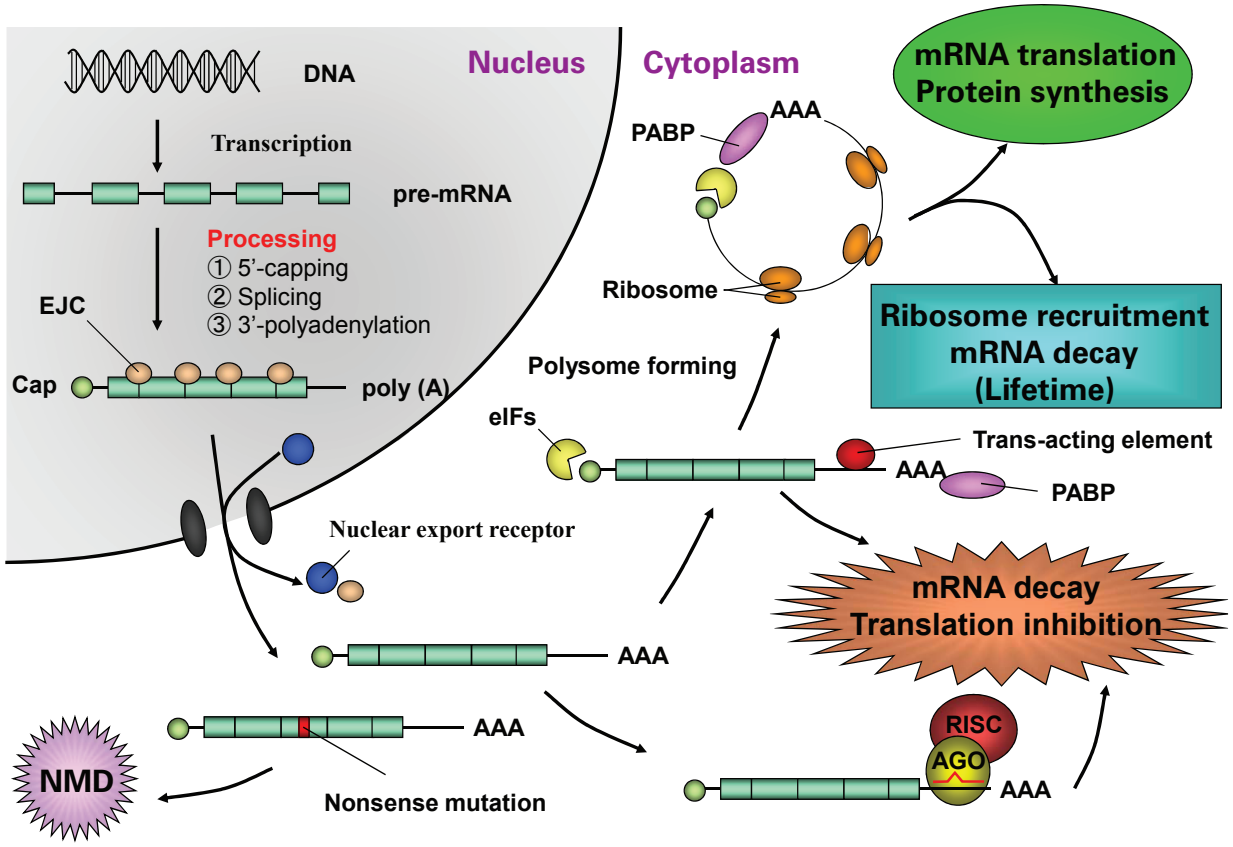
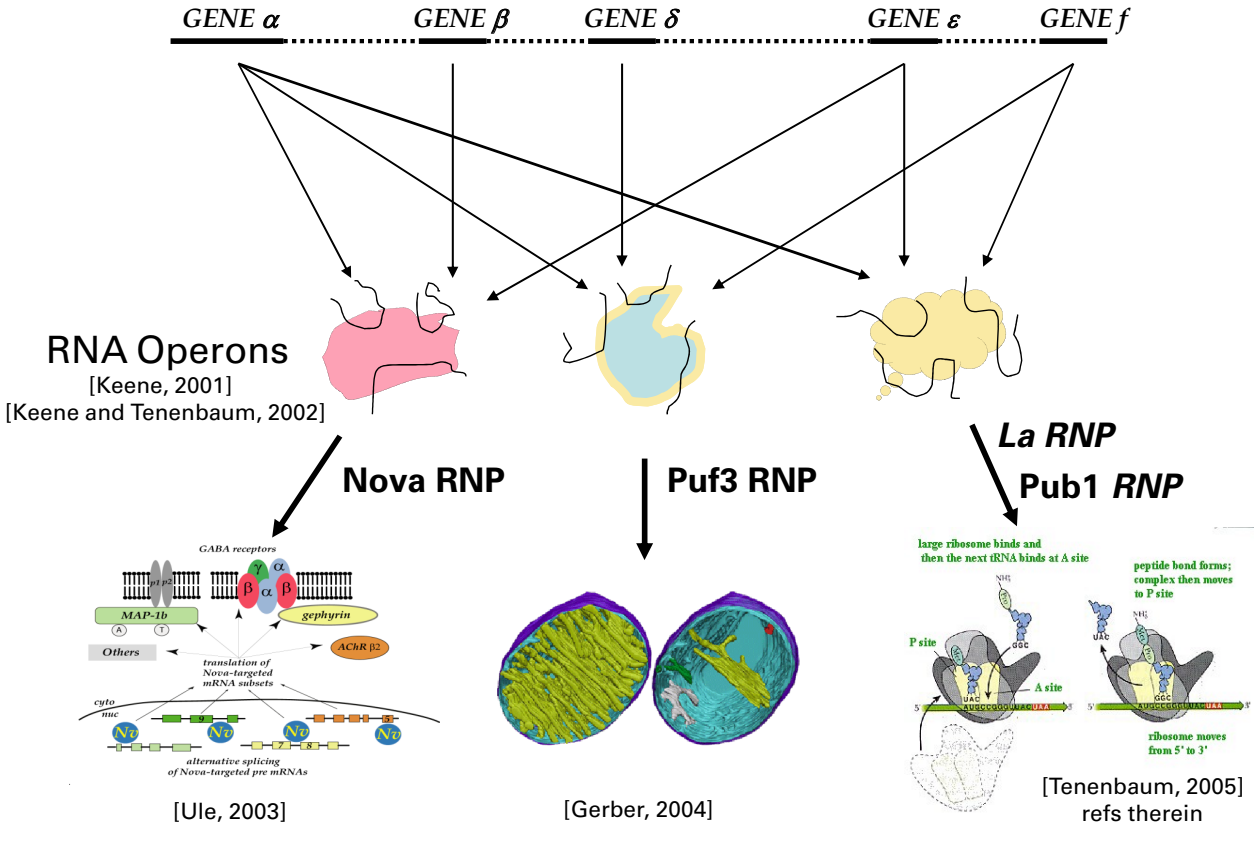
Concept of RIP-Chip technology

RBPs are involved in every step of mRNA regulation



RBPs regulate mRNAs encoding functionally related proteins



[Ule, 2003]

[Gerber, 2004]

[Tenenbaum, 2005] refs therein

RIP-Assay kit can isolate functionally related mRNAs from cells

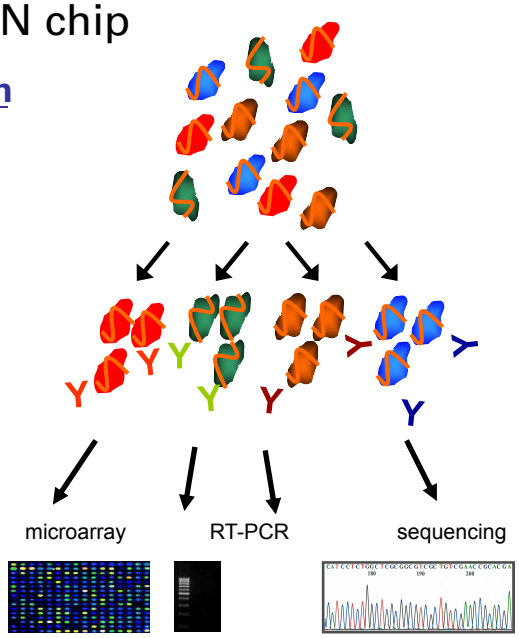
Immunoprecipitate RNA bound RBP by specific antibody, then isolate mRNAs and/or non-coding RNAs from mRNP followed by DAN chip

mRNP immunoprecipitation

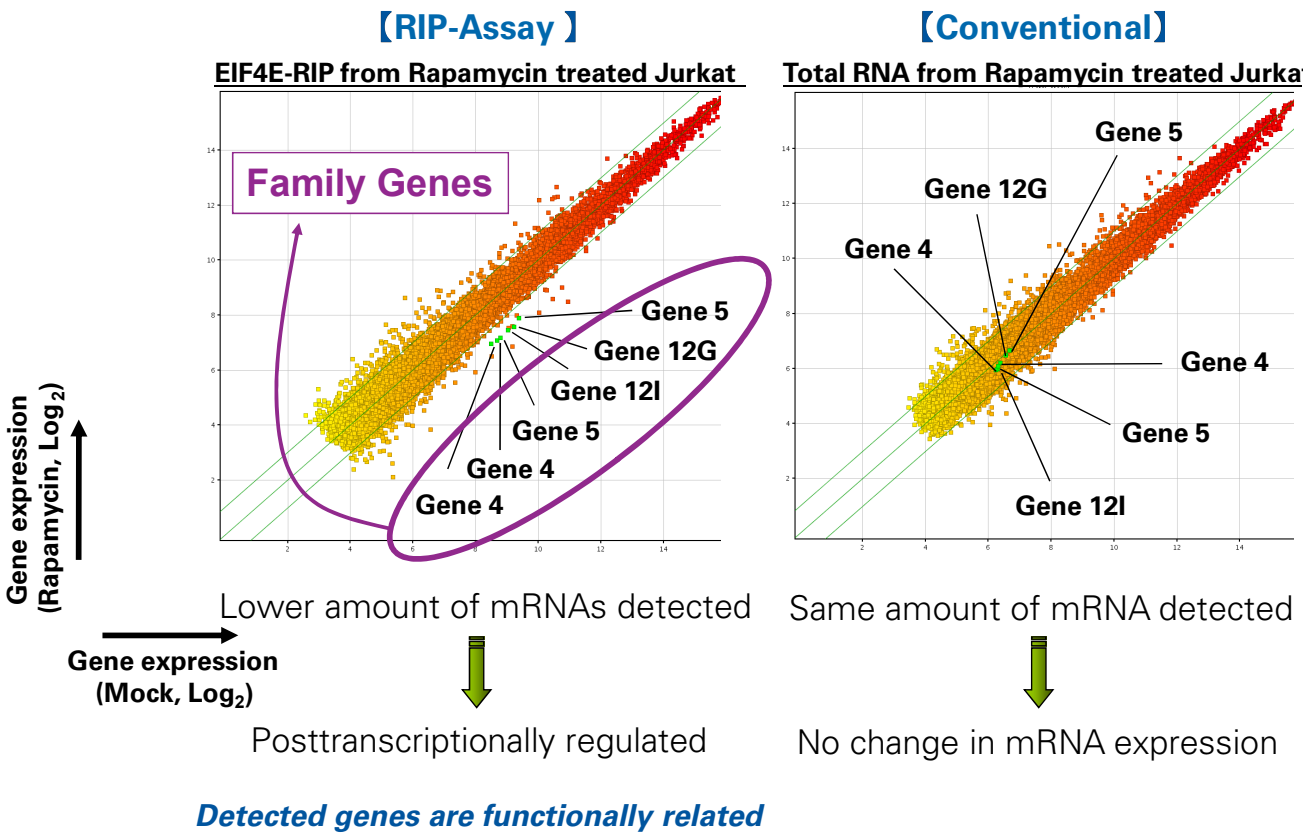
- All mRNAs bind to various RBPs in a cell
- Immunoprecipitate RBP by specific antibody

Expression analysis

- Isolate mRNAs and non-coding RNAs from mRNP compalex
- Identify RNAs by DNA chip, RT-PCR or HTP sequencer



RIP-Assay Kit can identify functionally related genes that were not detected by conventional method.



Detected genes are functionally related

RIP-Chip (RNA-binding protein Immunoprecipitation microarray)

RIP-Chip is a technology used to identify functionally related mRNAs and other RNAs associated with RNA binding proteins (RBP). RBPs regulate and coordinate the translation of multiple mRNAs and the activity of noncoding regulatory RNAs. This technology helps identify and understand functionally related genes in diseased cells and developing systems.

RIP-Chip works on a similar principle to the widely used ChIP-Chip. It allows immunoprecipitation of ribonucleoproteins (RNPs), with or without crosslinking, from cell extracts using an antibody raised against the RBP of interest. The simple RIP procedure is then followed by microarray (chip) analysis. While microarrays determine the sequences of the RNA targets by hybridization, direct sequencing approaches (RIP-seq) can also be used to reveal RNA targets of RBPs.

RIP-Chip or RIP-seq data provide insights into new cellular pathway components leading to potential therapeutic targets and can also provide information regarding the effects of drugs on post-transcriptional processes. This technology can be applied to essentially any cellular system or animal model.

MBL International is providing specialized RIP-Chip and RIP-seq antibodies that have been validated to work for this unique technology, as well as a kit with reagents optimized for RNP immunoprecipitation.

RIP Grade Antibodies

Code No.	Description	Size
RN001P	Anti-EIF4E Polyclonal Antibody	200 µg
RN002P	Anti-EIF4G1 Polyclonal Antibody	200 µg
RN003P	Anti-EIF4G2 Polyclonal Antibody	200 µg
RN004P	Anti-ELAVL1/HuR Polyclonal Antibody	200 µg
RN005P	Anti-ELAVL2/HuB Polyclonal Antibody	200 µg
RN006P	Anti-ELAVL3/HuC Polyclonal Antibody	200 µg
RN007P	Anti-IGF2BP1/IMP1 Polyclonal Antibody	200 µg
RN008P	Anti-IGF2BP2/IMP2 Polyclonal Antibody	200 µg
RN009P	Anti-IGF2BP3/IMP3 Polyclonal Antibody	200 µg
RN010P	Anti-MSI1/Musashi1 Polyclonal Antibody	200 µg
RN011P	Anti-PTBP1 Polyclonal Antibody	200 µg
RN012P	Anti-STAU1 Polyclonal Antibody	200 µg
RN013P	Anti-STAU2 Polyclonal Antibody	200 µg
RN014P	Anti-TIA1 Polyclonal Antibody	200 µg
RN015P	Anti-YBX1 Polyclonal Antibody	200 µg

Graph does not include all antibodies.
Please refer to www.mblintl.com for a complete list.

RiboCluster Profiler

Code No.	Description	Size
RN1001	RIP-Assay Kit	10 Assays
RN1005	RIP-Assay Kit for miRNA	10 Assays

Components	Volume (10 assays)
Lysis Buffer	22 mL x 1 bottle
Washing Buffer	60 mL x 1 bottle
Normal Rabbit IgG	200 µL x 1 vial
High-Salt Solution	6 mL x 1 vial
Solution I	100 µL x 1 vial
Solution II	4 mL x 1 vial
Solution III	3 mL x 1 vial
Solution IV	25 µL

References:

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3) Keene, JD., et al., Methods Mol. Biol. (2008) 419:69-91
4) Keene, JD., et al., Nat. Protoc. (2006);1(1):302-7
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