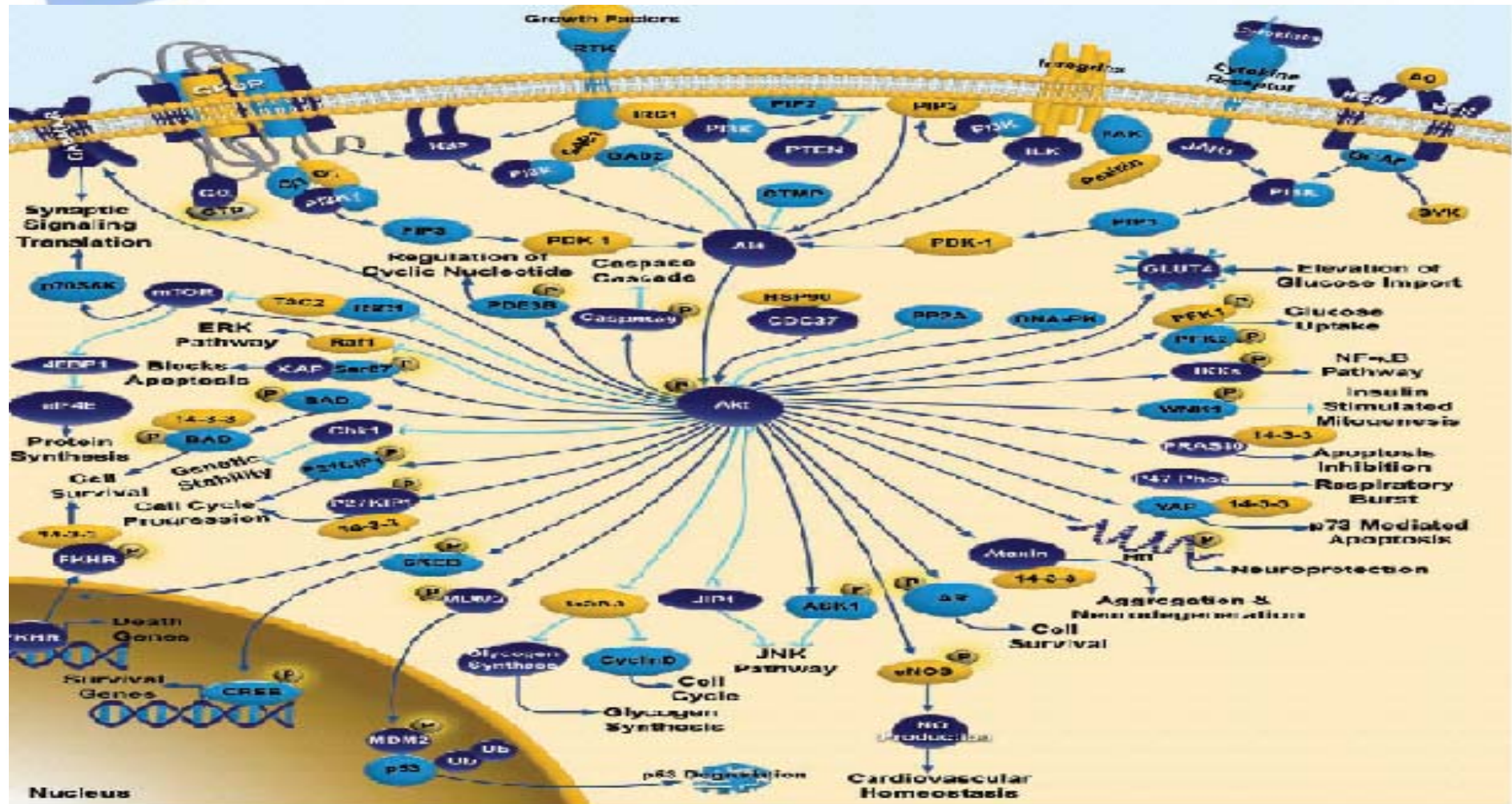




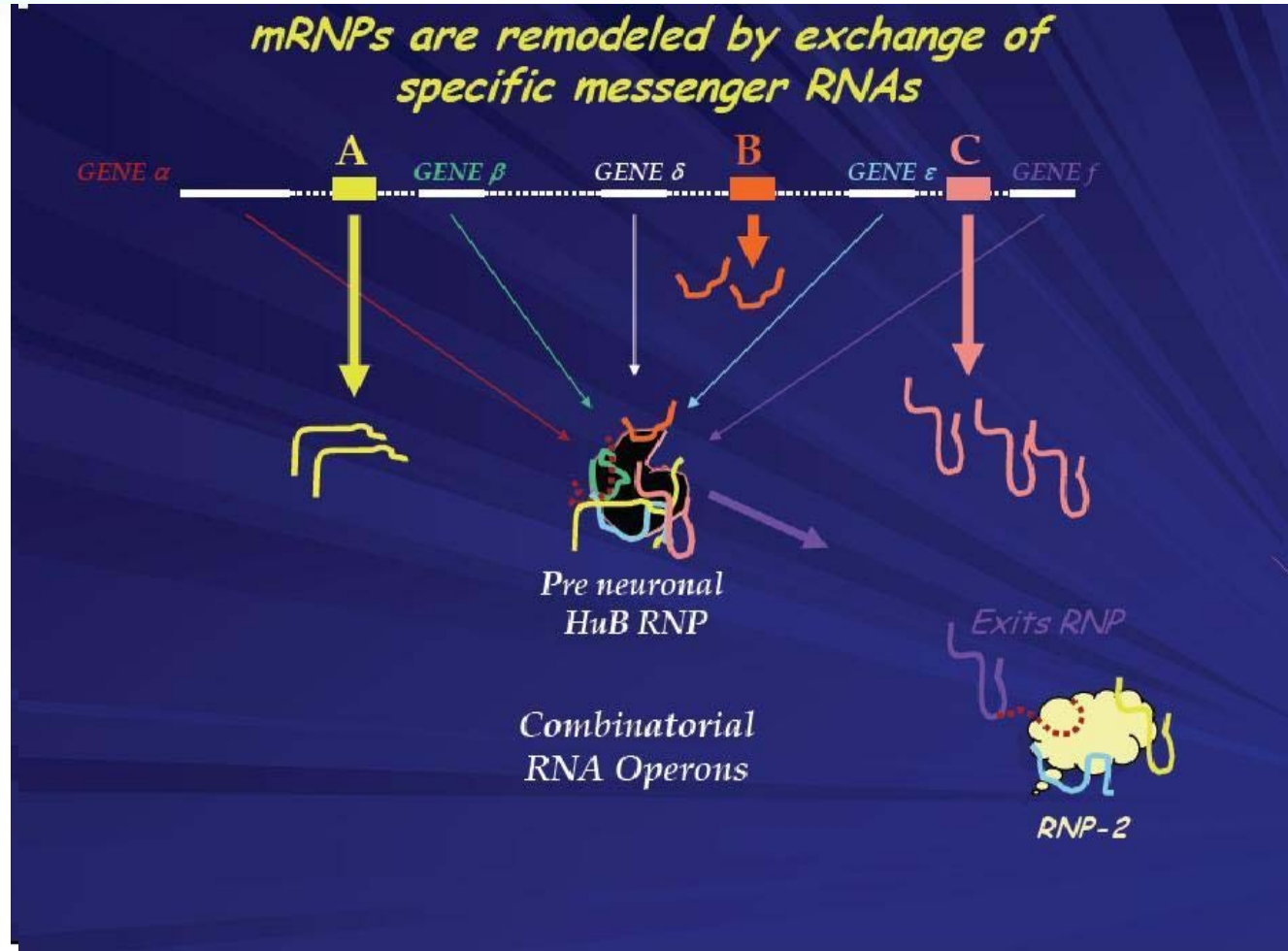
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# Insilico Target Discovery – A Road to IP Development

# Cancer complexity

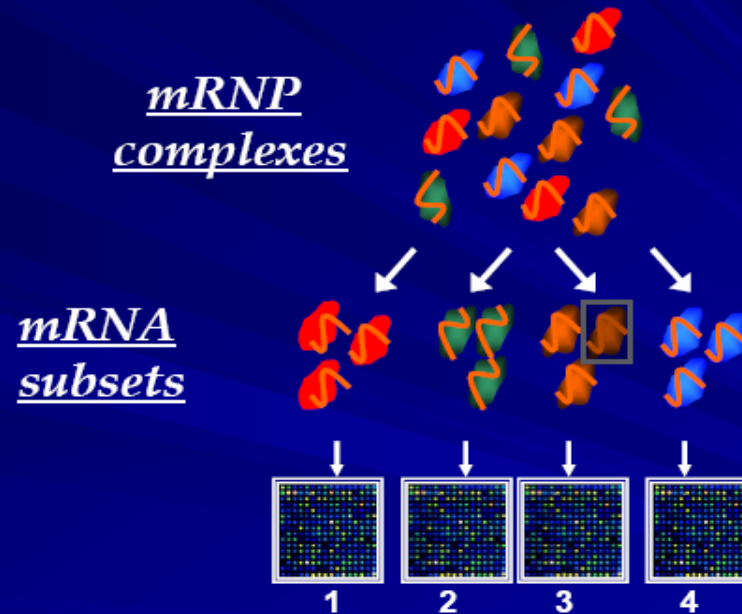


# Rationale - RBP



# RIP - ChIP

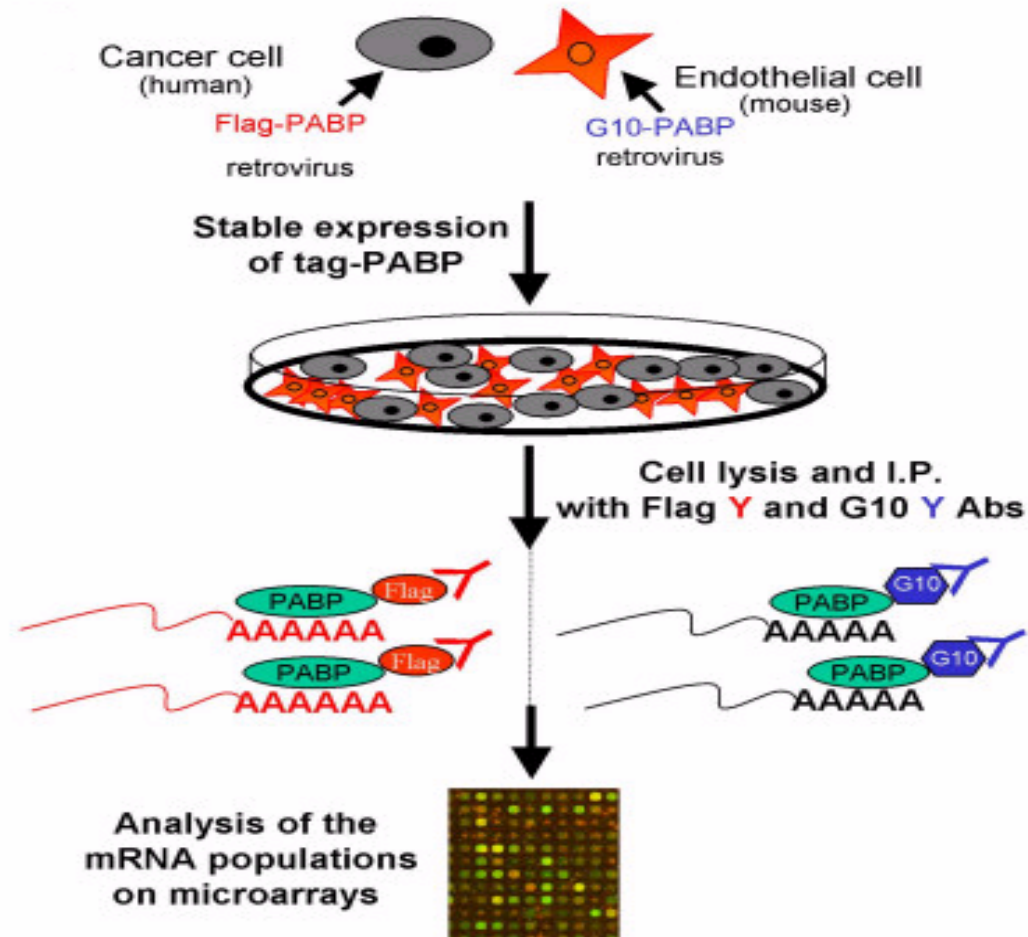
Immunological or biochemical isolation of specific mRNPs and their mRNA components using RIP-Chip



Microarrays can identify the mRNA components of mRNPs

Source: Keene & Tenenbaum

# RBP in cancer

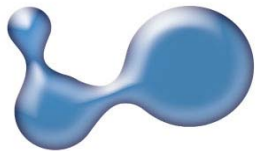


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# PCC0701- Overview

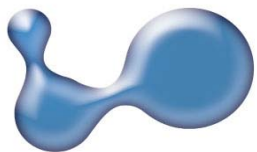
- It is expressed at high levels in many human tumors and is implicated in resistance to certain anticancer drugs.
- PCC0701 turns out be:
  - cell surface glycoprotein that metabolizes glutathione in the cell
  - plays a major role in tumor cell biology
  - reconstitution of cellular antioxidant system.



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# PCC0701- Assigning Function

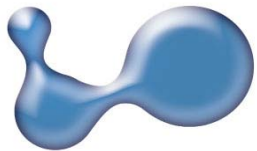
- One of the proteins involved glutathione metabolism in plants was also shown to bind RNA (RBP).
- Several RBPs are overexpressed in cancerous tissues/cells.
- Is PCC0701 an RBP?



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# Our Approach

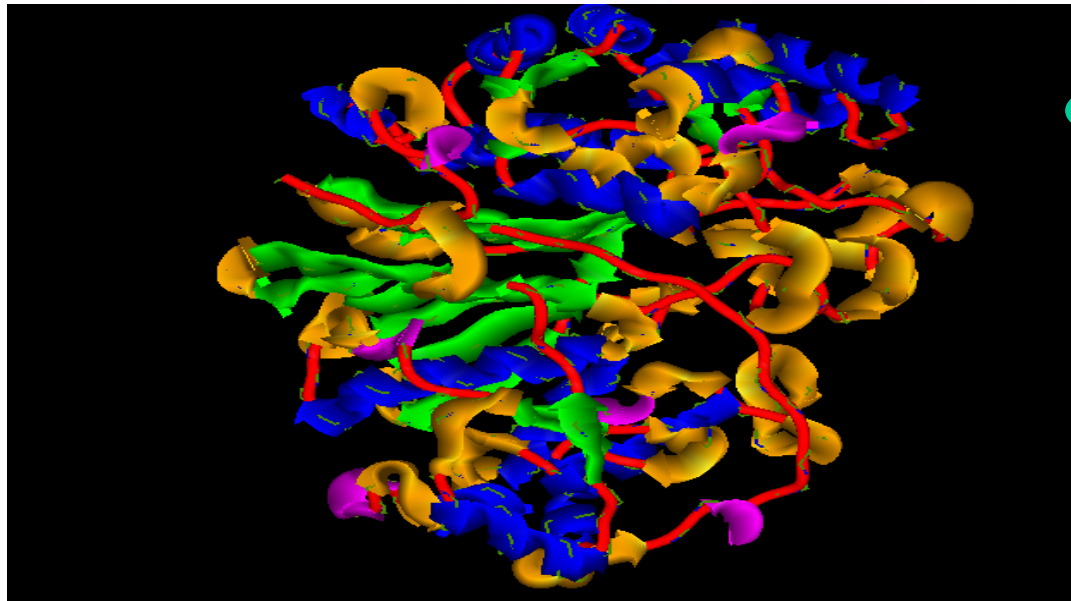
1. Structure Determination – Modeling of human PCC0701
2. Domain Analysis - RNA Binding Properties
3. Elucidating the orientation of RNA – Using novel Bioinformatics approach
4. Docking the RNA model



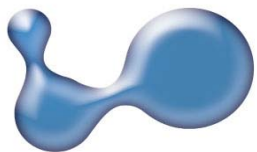
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# Structure of PCC0701

*The 3D structure of PCC0701 using Homology modeling of E-coli PCC0701 template*



No previous 3D model available!!!

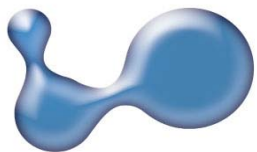
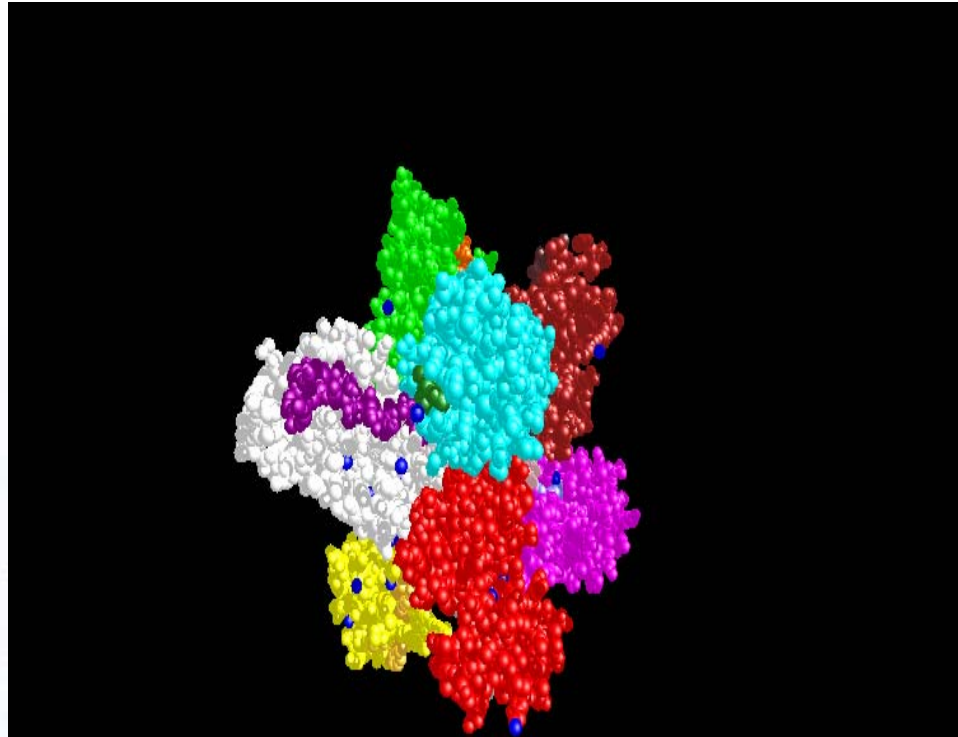


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# Structure of 1CVJ

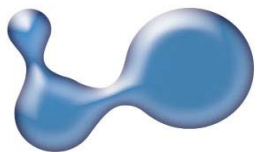
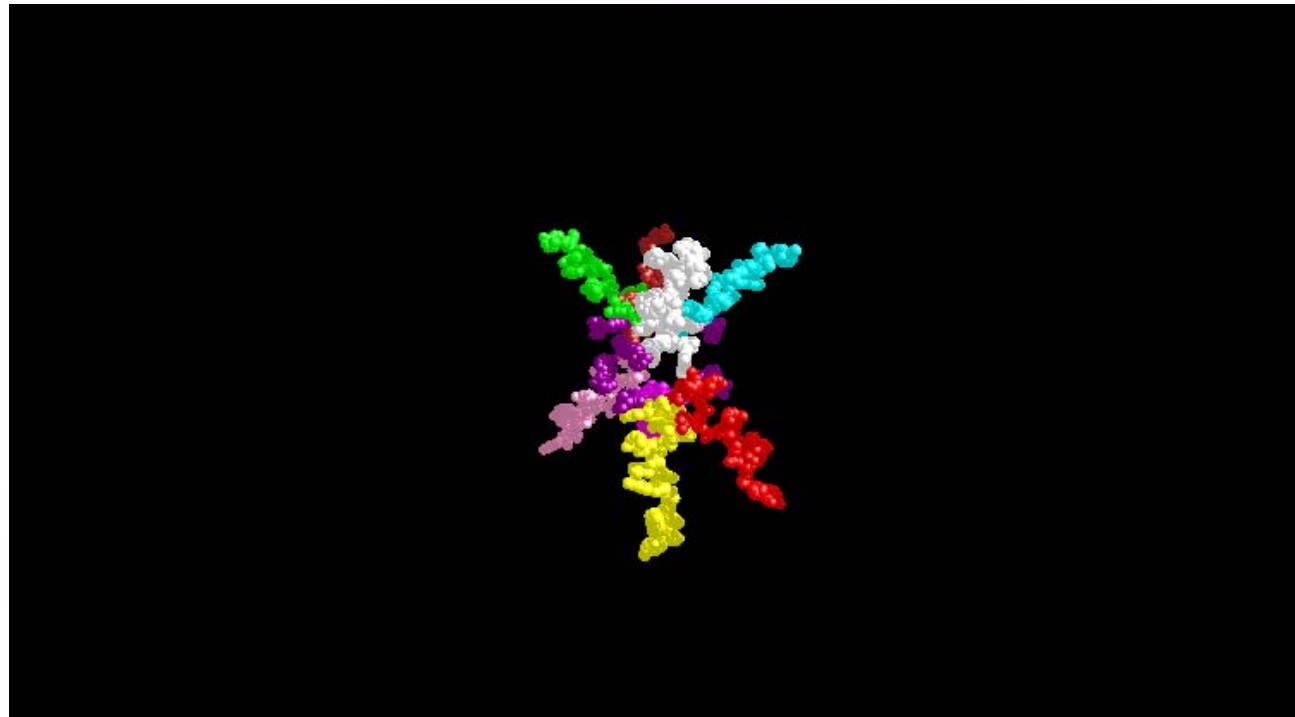
*The 3D structure of PABP bound to RNA*



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# Orientation of RNA which is bound to PABP

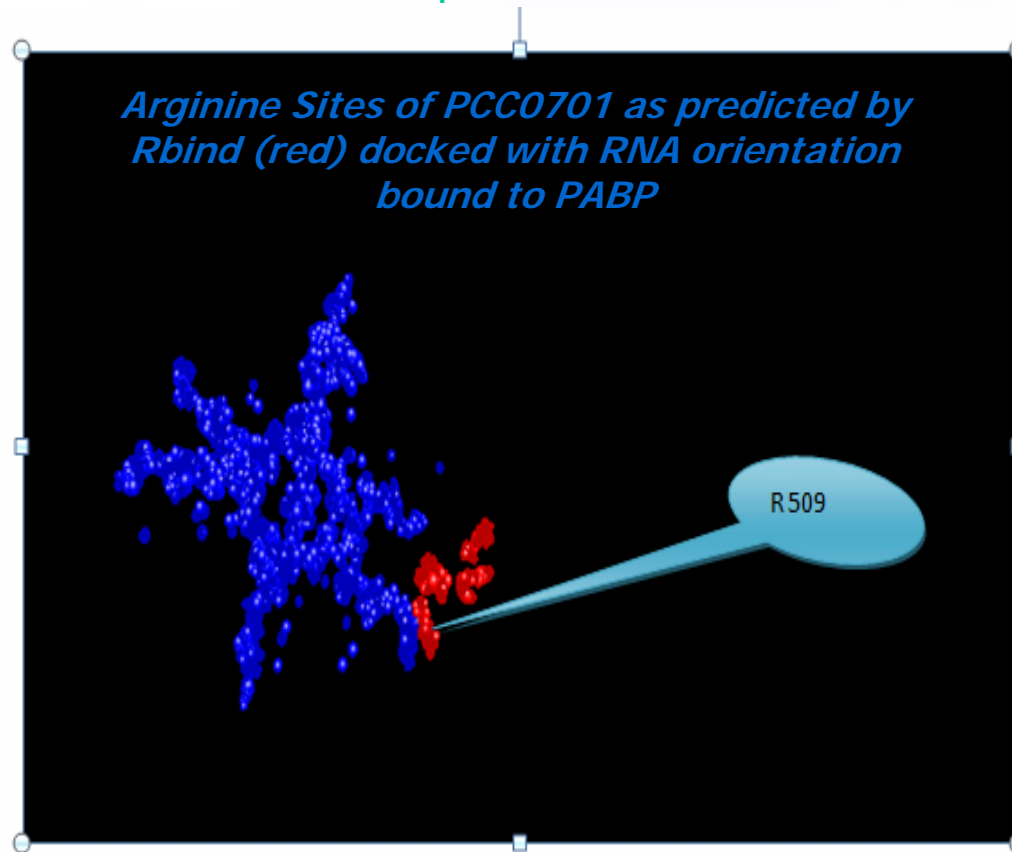
*RNA orientation which was bound to PABP*



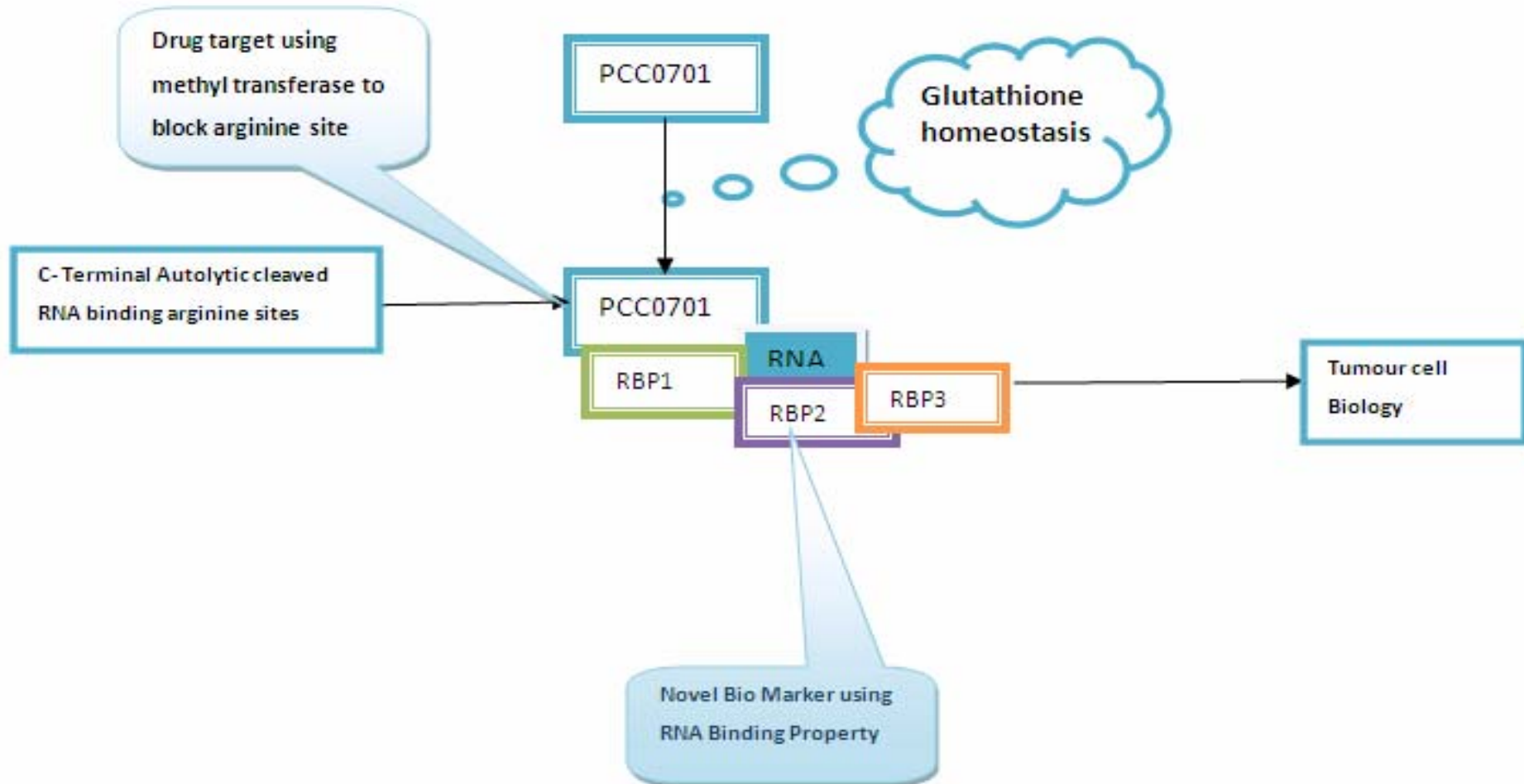
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# Docking PCC0701 with RNA

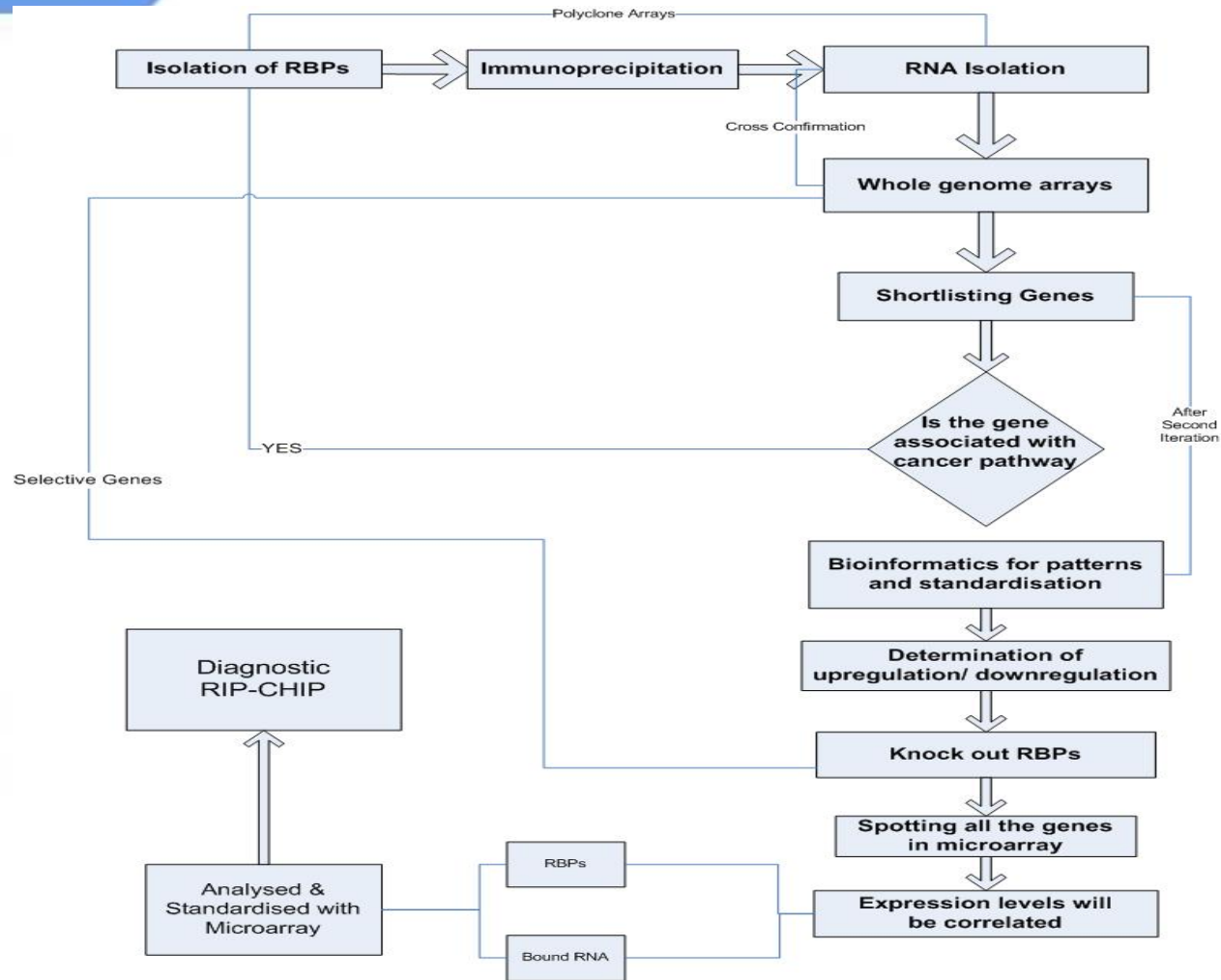
Docking the RNA model with solved PCC0701 structure to find the possible site of interaction



# Assigning a role to PCC0701



# Further plans - RIP-Chip



# About Polyclone

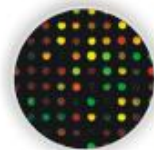
Enabling Discovery  
Through Biology



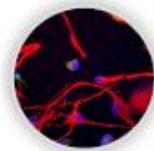
In silico  
Discovery



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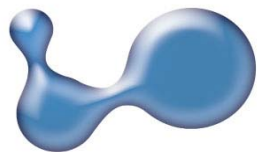
Custom  
Arrays



Genomics  
RNAi



Target  
Discovery

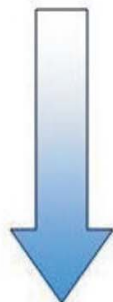
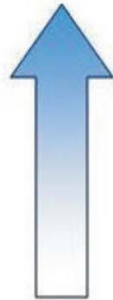


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# Business Strategy

High Risk / Large  
invested capital



Low Risk / Small  
invested capital

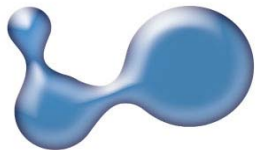
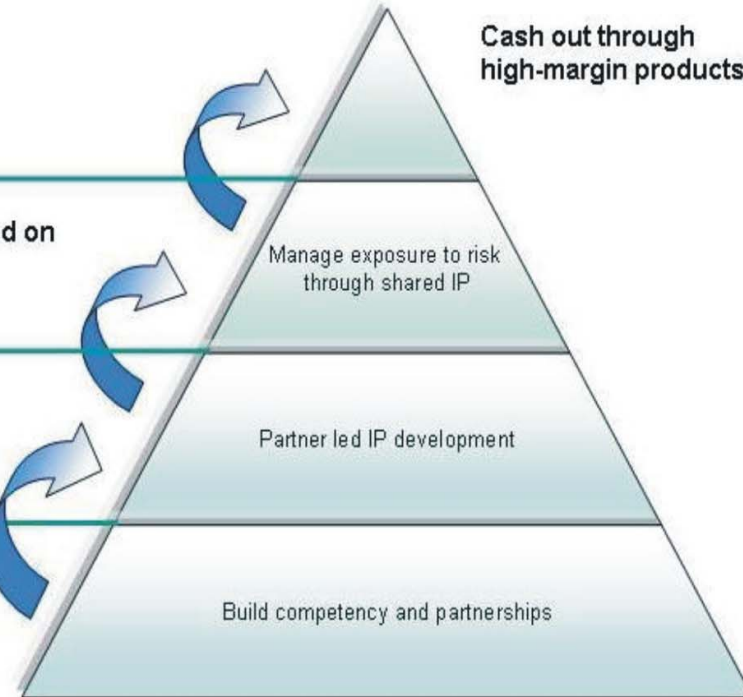
Out-licensing / Royalties

Co-development of IP based on  
existing portfolio and  
market opportunities

Strategic investment  
led R&D

Discovery Services  
fee for service

Cash out through  
high-margin products



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# Therapy & Technology Focus

## Cancer

- Tumor Profiling
- Micro RNA
- Oral, Head & Neck, Esophageal

## Infectious Diseases

- HIV Diagnostics
- TB Detection Assay
- Others

## Genomics Technologies

### MICROARRAYS

- Microarray spotting and hybridisation
- Pharmacogenomics
- Cancer Arrays

### RNAi, miRNA

- Target validation
- Inhibition, Activation Studies

### Real Time PCR

- Molecular Diagnostics
- Experimental Design
- Partner Led Discovery programs

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**Thank you**

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