

LncRNA-RBP interaction in cancer

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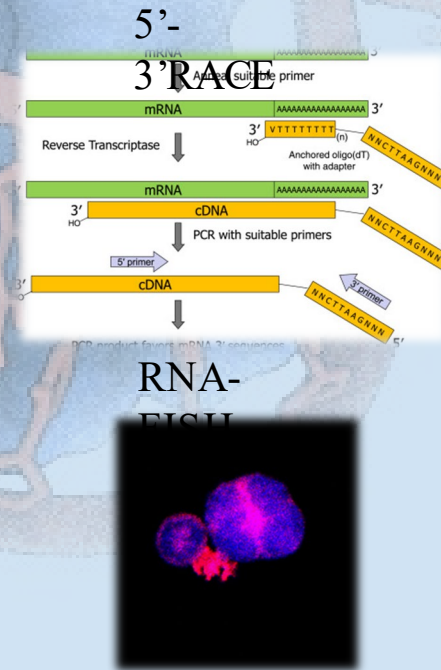
Experimental model and datasets

- Cancer cell lines
- In-house RNAseq, CHIP seq, ATAC seq datasets
- Online available patient sample datasets
- in-vivo mouse xenograft and orthotopic model

Main Methodologies

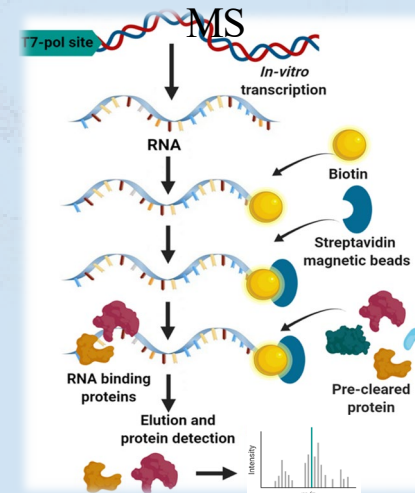
- In house NGS pipeline for bioinformatics analysis
- Deep learning based RNA structure prediction and RNA-protein docking
- Molecular cloning
- CRISPR system
- Lentiviral transduction
- 5' and 3' RACE
- RNA FISH (Microscopy), RNA EMSA
- RIP-qPCR, Co-IP
- RNA-protein pull down + MS
- Antisense oligonucleotides design and test

Characterization of cancer associated lncRNAs



Identify and evaluate the role of lncRNA-RBP complex

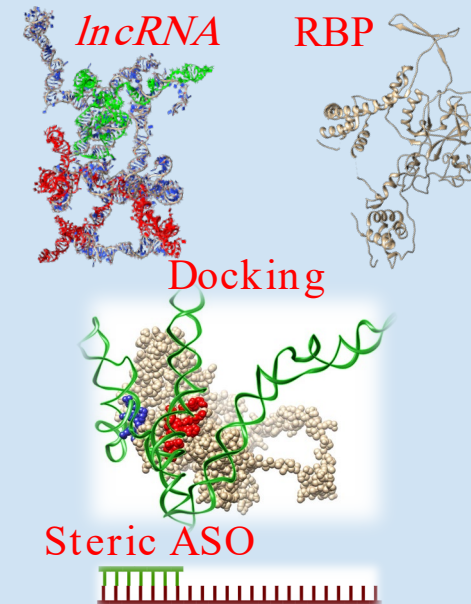
RNA-protein pull down + MS



- RIP-qPCR, Co-IP
- FISH + IF

Design and testing of ASOs

Docking and ASO



Collaborative potential:

- Identification and characterization of lncRNA in other disease conditions
- lncRNA role in epigenetic regulation/chromatin modification
- Design and testing of small molecule inhibitor for lncRNA and RNP complex