Figure 1

A

Break   Break

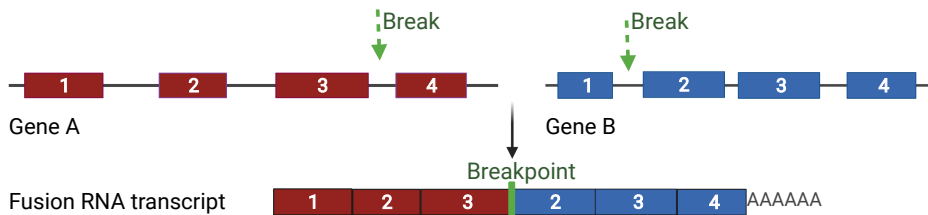Gene A   Gene B

Breakpoint

Fusion RNA transcript   AAAAAA

B

Input
- Novel lncRNAs identified using *Flnc*
- Annotated lncRNAs from LncBook
- Annotated genes from GENCODE

RNA-seq datasets

Index building

Index the library regarding genomic annotation for both lncRNA and mRNA genes

Breakpoint Detection
- STAR-Fusion
- ARRIBA
- STAR-SEQ

Consensus filtering
- Multiple Callers: fusions detected from at least two calls
- STAR-Fusion only calls: Require FFPM>0.1

Other filtering
- Exclude mitochondrial, immunoglobulin, duplicated genes and paralogue
- Exclude false fusions based on the RefSeq curated annotation

Output
Putative fusions
- lnc-fusions: lncRNA-lncRNA, lncRNA-mRNA, mRNA-lncRNA
- mRNA-fusions: mRNA-mRNA