

Lecture 7. Transcript Structure

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1 Functional diversity of RNA

RNA involved in regulation and degradation of almost every step in the central dogma.

We know most about RNA polymerase II. Transcribe rRNA via RNA polymerase I.

RNA can replicate itself as well as other RNAs.

RNA can mediate enzyme activity.

RNA responds to the environment and changes structure. riboswitches

1. RNA
2. RNA creates Proteins
3. RNA, Proteins create DNA

2 RNA transcript reconstruction

How can we reconstruct the primary structure of RNA?

Map to Genome Step 1: Mapping reads to the genome Burrows-Wheeler Transform

Step 2: Deal with spliced reads

3 RNA folding

How can we reconstruct the secondary structure of RNA?

4 Glossary

mRNA. messenger RNA

rRNA. ribosomal RNA

tRNA. transfer RNA

snoRNA. small nucleolar RNA

snRNA. small nuclear RNA

miRNA. microRNA

siRNA. small interfering RNAs