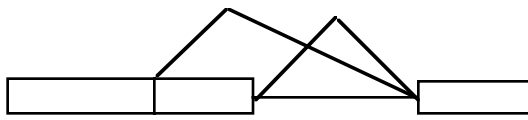


Alternate Splicing

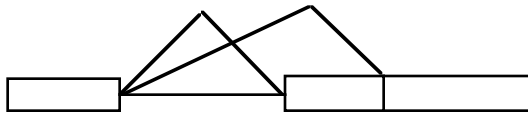
Determining factors

1. The intrinsic strength of the splice site sequence
 2. Formation of more elaborate secondary RNA structures
 3. Changes in the concentration of general splicing factors
 4. Tissue / stage-specific transacting regulators
-

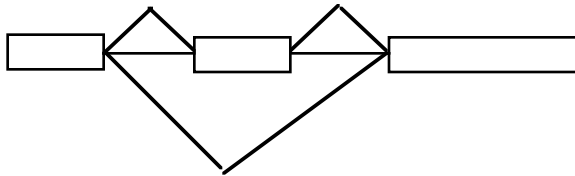
Alternate 5' ends



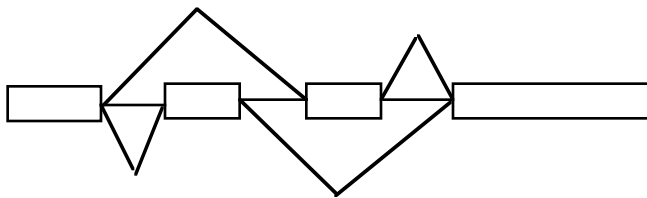
Alternate 3' ends



Skip exon



Alternate exon



To splice or Not to splice

1. U1-5' splice site recognition

example: *MER-2* (required for meiotic recombination in yeast)

2. U1 repression

example: *Drosophila P elements*

in somatic cell--the third intron is not removed---->Transposition Repressor protein is made
in germ cells--the third intron is removed--->Transposase is made

The repressor for splicing is made in somatic cells.

3. Alternate secondary structure

example: *ribosomal protein L32 of yeast*

High amount of L32 in the cell blocks splicing of L32 transcripts by forming alternate secondary structure.

Alternate Splicing: Choosing between two

1. 5' Splice choice

example: *SV40 virus (large T antigen vs. small t antigen)*

2. 3' splice site repression

example: *Drosophila tra gene*

3. 3' splice site enhancer

example: *Drosophila dsx (double sex)*