

# GTS 251

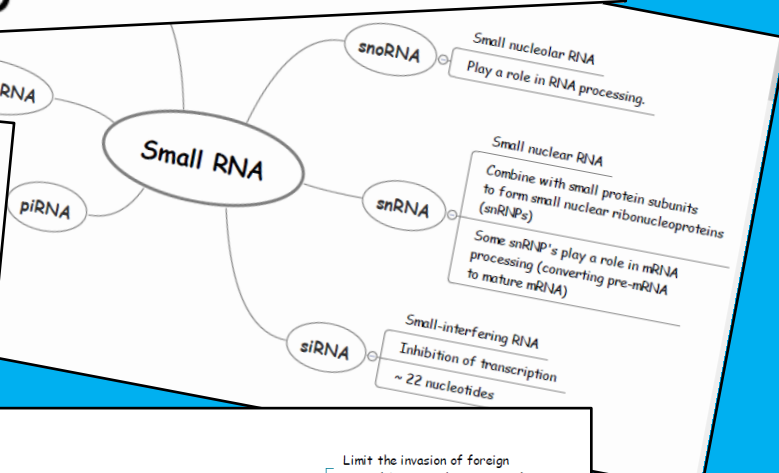
## Mind Maps

Examinations around the corner!

### Polymerase I and polymerase III promoters

Promoters for small rRNA and tRNA genes, transcribed by RNA polymerase III contain internal promoters that are downstream of the start site and are transcribed into RNA.

### Small RNA

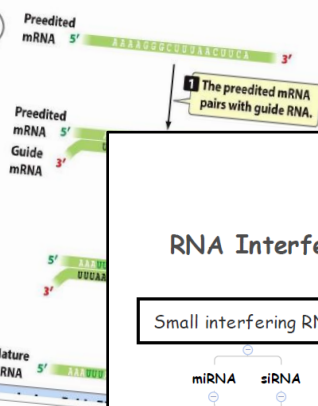


### RNA Editing

Functions

- Delete nucleotides
- Covert bases
- Insert nucleotides

Found in some mRNA, tRNA, rRNA and miRNA



### RNA Interference

Mechanism in Eukaryotes to:

- Limit the invasion of foreign genes (viruses and transposons)
- Sensor the expression of own genes.

miRNA and siRNA

- Play a role in RNA interference.
- Bind to mRNA molecules and decrease their activity.

#### Small interfering RNA



How do they solve the mRNA?

- Double-stranded miRNA + protein = RNA-Induced silencing complex
- Argonaut (protein) : plays a crucial role
- End result of interference: degradation of mRNA, inhibition of translation.

**Included:**  
**Previous tests, exams, tutorials**

**Concepts covered:**

Basic stages of transcription  
Components required for transcription  
Different classes of RNA & their function  
DNA Packaging  
Chemical nature of DNA  
Elongation at the replication fork  
Long non-coding RNA's  
Nucleosomes & telomerase  
Polymerase I and Polymerase III  
Protein synthesis in Bacteria  
Replication at the replication fork within the nucleus  
DNA synthesis and the cell cycle  
Replication  
Replication in Archaea  
RNA editing  
RNA interference  
Minor splicing  
Alternative processing in calcitonin  
Small RNA  
Special structures  
Transcription apparatus in bacteria  
Transcription in Archaea  
Transcription in Eukaryotes  
tRNA charging



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