

Reverse Transcriptase

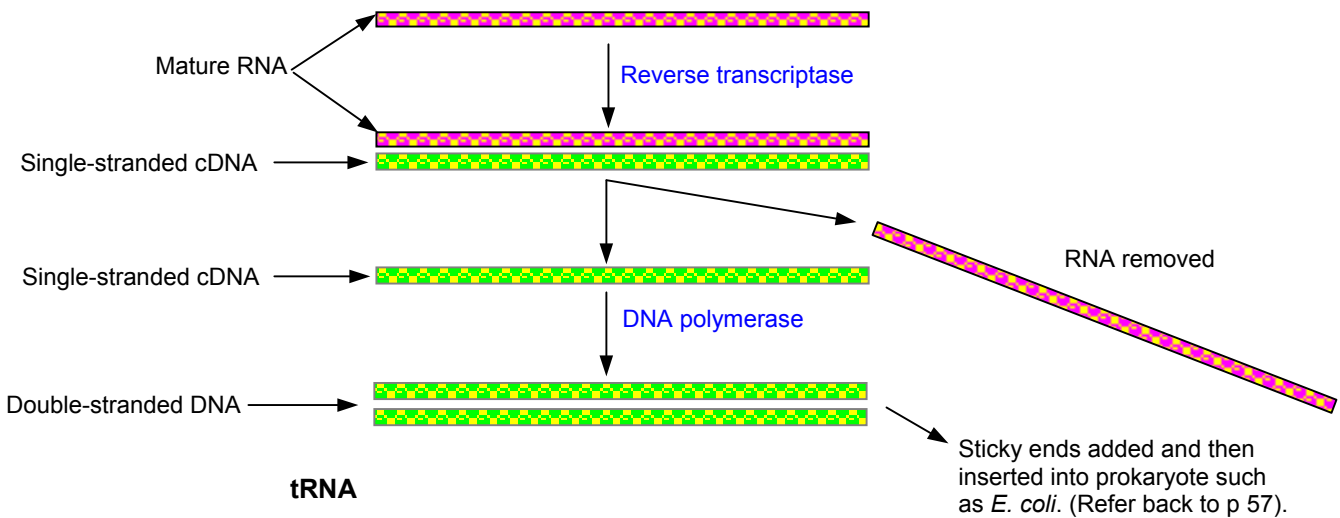
Reverse Transcriptase

Reverse transcriptase catalyses the production of DNA from RNA.

- This is an enzyme used by certain types of virus including HIV.
- It has proved to be very useful to biotechnologists. Human insulin can be made by GM *E. coli*.
- The mRNA produced by prokaryotic genes does not contain introns and so bacteria do not possess the ability to cut and splice.
- A eukaryotic gene placed in prokaryote may be translated into primary RNA which is then translated into a nonsense protein which has no function.

Key points -

- Reverse transcriptase takes mature RNA and makes single-stranded cDNA.
- This single-stranded cDNA is then used to make double-stranded DNA which can be inserted into the prokaryote.



tRNA

Key points -

- There are 61 codons (excluding the three stop codons).
- Therefore there are 61 anticodons.
- Therefore there are 61 different types of tRNA.
- All tRNA molecules have the same basic shape.
- The amino acid is joined at the ACC terminal.
- Adding the amino acid requires energy from ATP and a specific enzyme.

tRNA

