

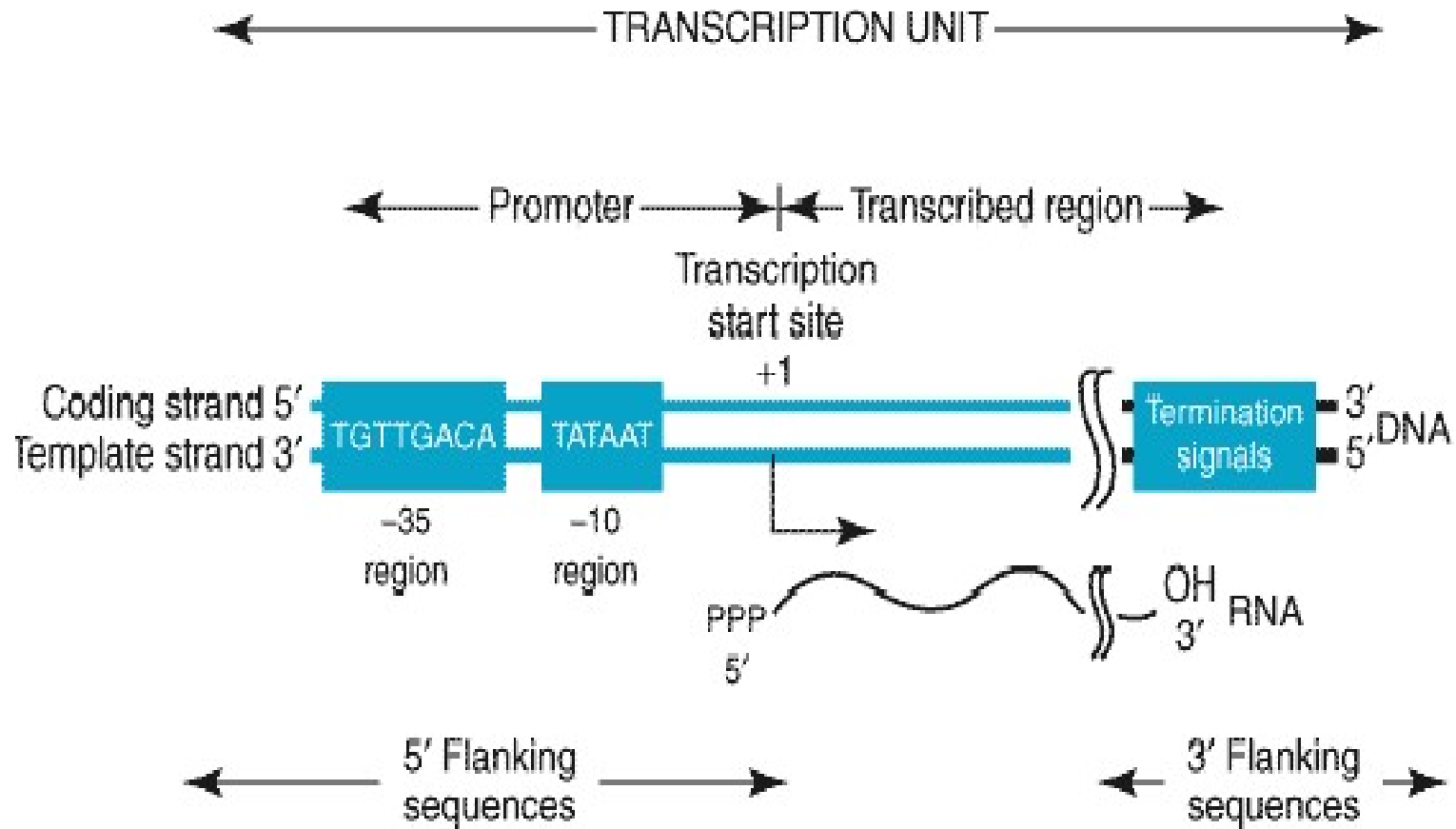



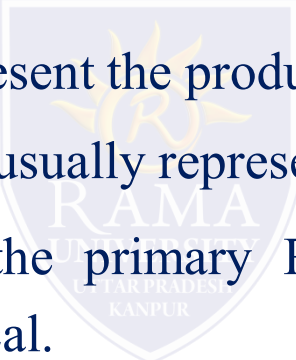
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DEPARTMENT OF BIOTECHNOLOGY

# Transcription unit and Primary transcript



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- The RNA product, which is synthesized in the 5' to 3' direction, is the **primary transcript**.
  - In prokaryotes, this can represent the product of several contiguous genes
  - In mammalian cells, it usually represents the product of a single gene
  - The 5' terminals of the primary RNA transcript and the mature cytoplasmic RNA are identical.
  - **The starting point of transcription corresponds to the 5' nucleotide of the mRNA.**
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- This is designated position +1, as is the corresponding nucleotide in the DNA
  - The numbers increase as the sequence proceeds *downstream*.
  - The nucleotide in the promoter adjacent to the transcription initiation site is designated -1,
  - These negative numbers increase as the sequence proceeds *upstream*, away from the initiation site.
  - This provides a conventional way of defining the location of regulatory elements in the promoter.
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# Transcription unit

