Initiation

- Involves assembly of RNA pol II + general transcription factor (GTF).
- RNA pol cannot directly bind to DNA.
- 1st GTF bind; then recruits RNA pol enz.

Assembly of transcription initiation machinery

Nomenclature of transcription factor

- TFIID: TF- Transcription factor II- works with RNA pol II
  D- order of discovery

- D-A-B-F-E-H (sequence of transcription factor assembly)
  - D: TBP- TATA binding ptn.
  + TAF- TATA assoc. Factors.
  - A+B ICC
  - F:RNA pol II:ICC= MTIC
  - E,H = PIC

Helicase...
Unwind promoter DNA...and transcription Ready to begin...

Structure and product in eukaryotic mRNAs

- Mature biologically active mRNA: 5'UTR + ptn coding seq. + 3'UTR
  - Leader sequence specifies aa seq of ptn during translation
  - Trailer sequence

Bac. transcription | Eu. transcription
---|---
Simplear process complex | complex
RNA pol I RNA pol I- nucleolus RNA pol II- nucleoplasm RNA pol III---/---
R. Pol residue in cytosol as | as
Specific terminator seq. X specific terminator seq. | X NOT
RNA pol can directly binds To DNA | separate
Coupled transci.-transla. | Polycisticronic-mRNA monocisticronic