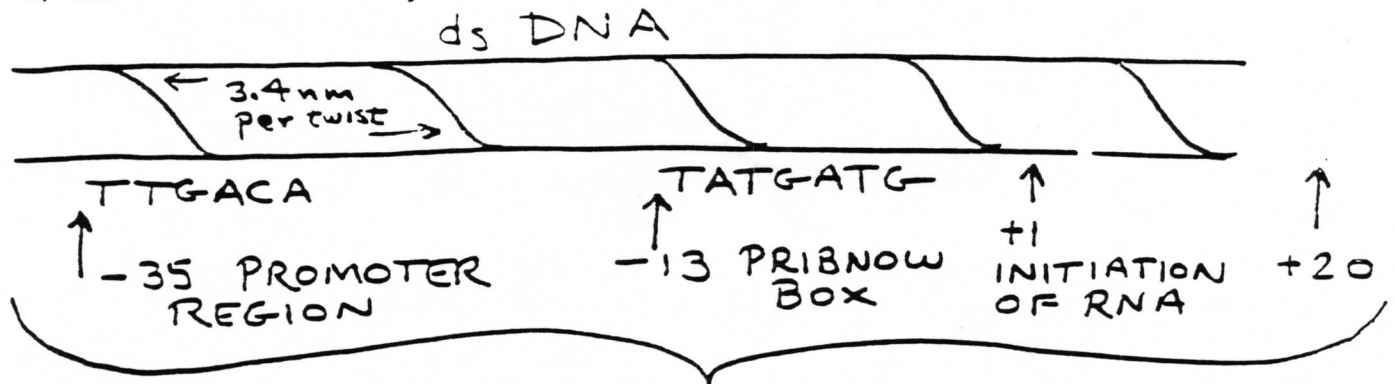


Sigma subunit identifies "start signals" (PRIBNOW Box = TATGTTG): separates after RNA chain becomes a few bases long

Beta subunit contains the RNA polymerase activity: Rifampicin can bind here and prevent initiation of RNA syn.

Beta and Beta' subunits are very large proteins, ~1500 amino acids long. The large size of this polymerase explains how it can simultaneously contact a promoter region (-45 to -30 bases before initiation point), the PRIBNOW box (-20 to -8 before init.), and the initiation turns of the DNA helix - about 14 nm. (see an actual sequence on page 908). (Promoter is at 50, PRIBNOW at 74, and mRNA starts at 87)

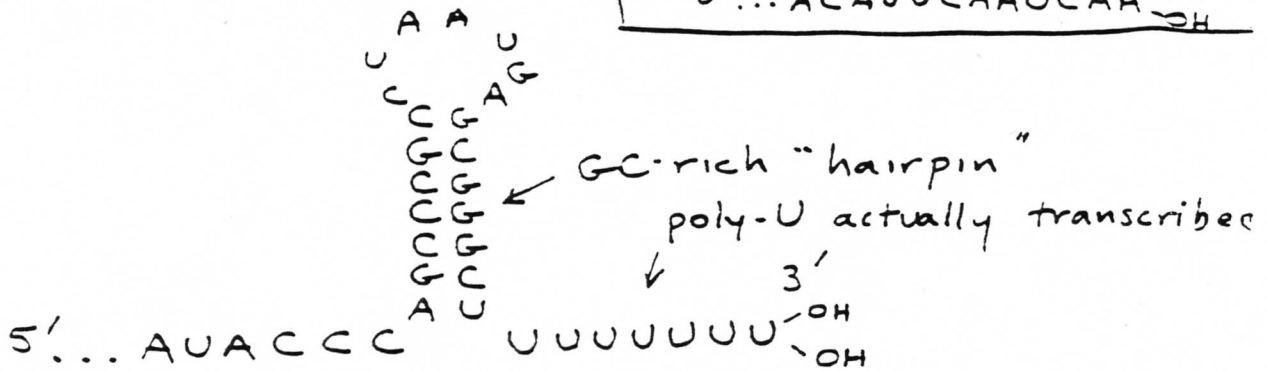


THIS WHOLE REGION IS COVERED BY RNA POL

All covered by RNA polymerase RNA synthesis proceed until one of two "stop signals" is encountered: a binding site for the "RHO" protein (CAATCAA?) or a "HAIRPIN-POLY-U."

Example of hairpin poly-U sequence:

EXAMPLE OF ρ-TERMINATED RNA:  
5'...ACAUCAAUCAAA<sup>3'</sup><sub>OH</sub>



This could be the 3' end of any sort of RNA. Notice: stop signals are transcribed but "start" signals are not. If "hairpin" is prevented from forming, RNA pol will not stop!