

Promoters are a vital component of expression vectors because they control the binding of RNA polymerase to DNA

About 100-1000 base pairs long

In eukaryotes like humans, the main RNA polymerase in your cells does not attach directly to promoters like bacterial RNA polymerase. Instead, helper proteins called **basal (general) transcription factors** bind to the promoter first, helping the RNA polymerase in your cells get a foothold on the DNA

Many eukaryotic promoters have a sequence called a **TATA box**. The TATA box plays a role much like that of the -10/-10 element in bacteria. It's recognized by one of the general transcription factors, allowing other transcription factors and eventually RNA polymerase to bind. It also contains lots of As and Ts, which make it easy to pull the strands of DNA apart

A=T

G≡C

