

Source: [KBhBIO101DNATranscription](#)

1 | TATA Binding

“DNA is long. How our cells know where to start transcribing?”

First, promoters exist to demarcate the start and the directionality of transcription. In bacterias, this typically means that there are two regions that bind to the sigma subunit of the RNA polymerase, but in eukareotes, this is much more complicated and involves something called...

:confetti: the TATA box! :confetti:

Before the start of the transcription site, the TATA box exists with a sequence of usually T-A-T-A-(A/T)-A-(A/T) that the **TATA binding protein** recognizes and binds to.

1.1 | TATA Binding Protein

This TATA binding protein will then serve as the landmark for the actual RNA polymerease to find the promoter. Surprisingly, the TATA binding protein is not gentle with the DNA: grabbing onto it and bending it sharply to start transcription.

1.2 | Helpers to TATA

TATA is part of a larger transcription factor called TFIID. TFIID, upon binding, calls for other transcription factor to bind, creating a big'ol protein to decide whether or not transtription will happen.