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The jaws of transcription

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Active RNA polymerase (RNAP) somehow remains both stable and mobile. In the 28 July Science Korzheva *et al*. combine the X-ray crystal structure of *Thermus aquaticus* (*Taq*) core RNAP with their own crosslinking data to derive a model of a functioning bacterial core RNAP (*Science* 2000, **289**:619-625). At the front, a 20° hinged movement closes the RNAP "jaws" around the downstream DNA. At the back of the RNAP, the rudder region is positioned to separate the exiting RNA from the DNA template strand. Termination probably comes when an RNA hairpin disrupts interactions with the rudder, triggering collapse of the transcription bubble.

References

1. Science magazine, [http://www.sciencemag.org/]

2. Crystal structure of Thermus aquaticus core RNA polymerase at 3.3 A resolution.