

DNA interrogation by the CRISPR RNA-guided endonuclease Cas9

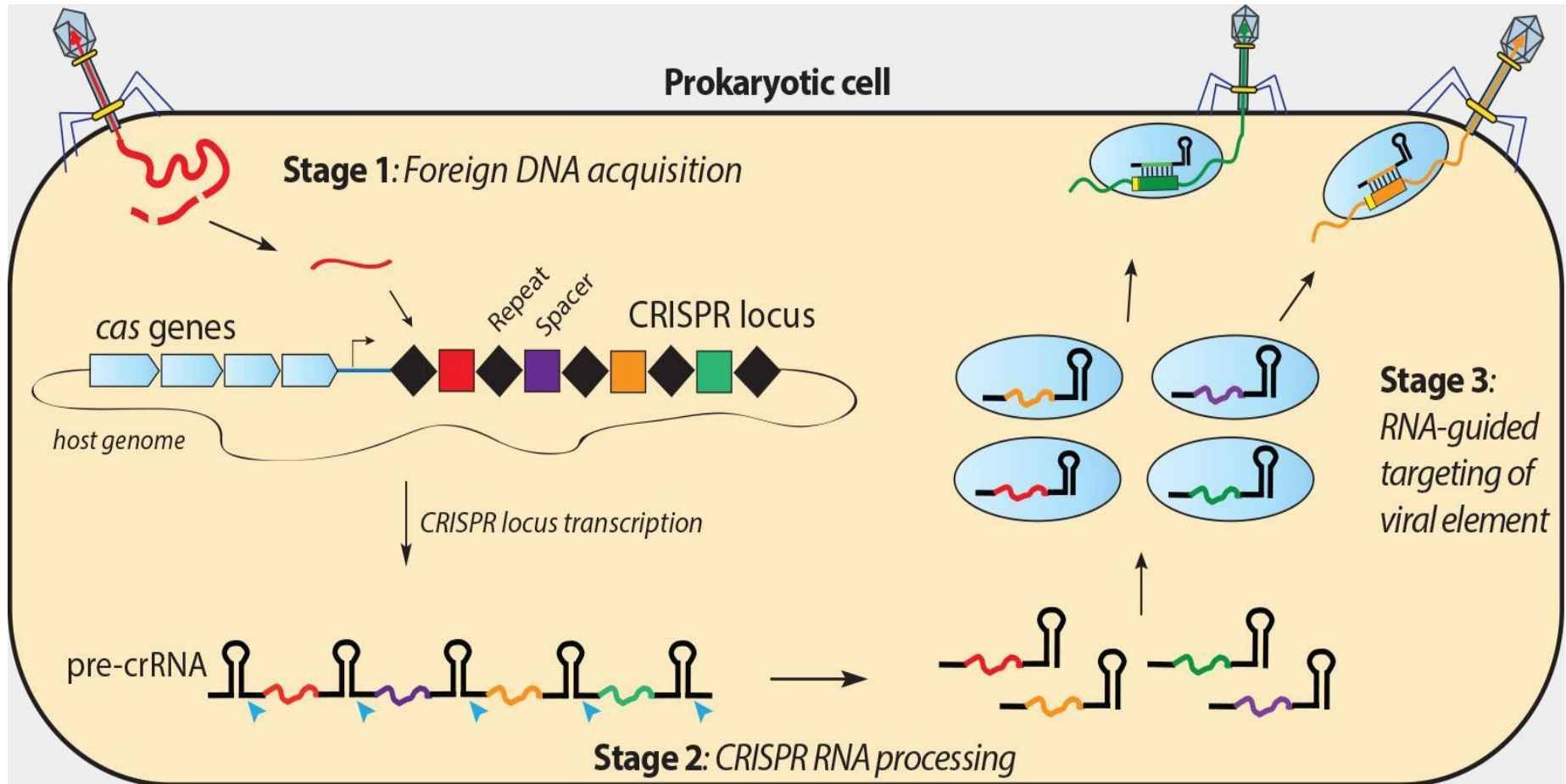
Samuel H. Sternberg, Sy Redding, Martin Jinek, Eric C. Greene & Jennifer A. Doudna

2014

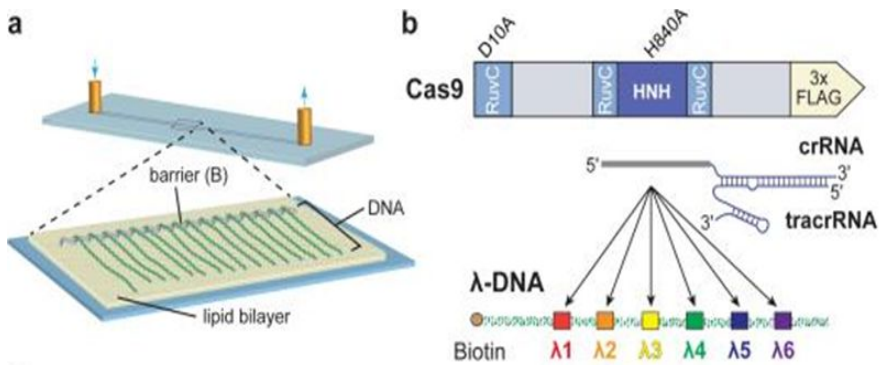
Martin Jinek, Jennifer A. Doudna
Berkeley, California



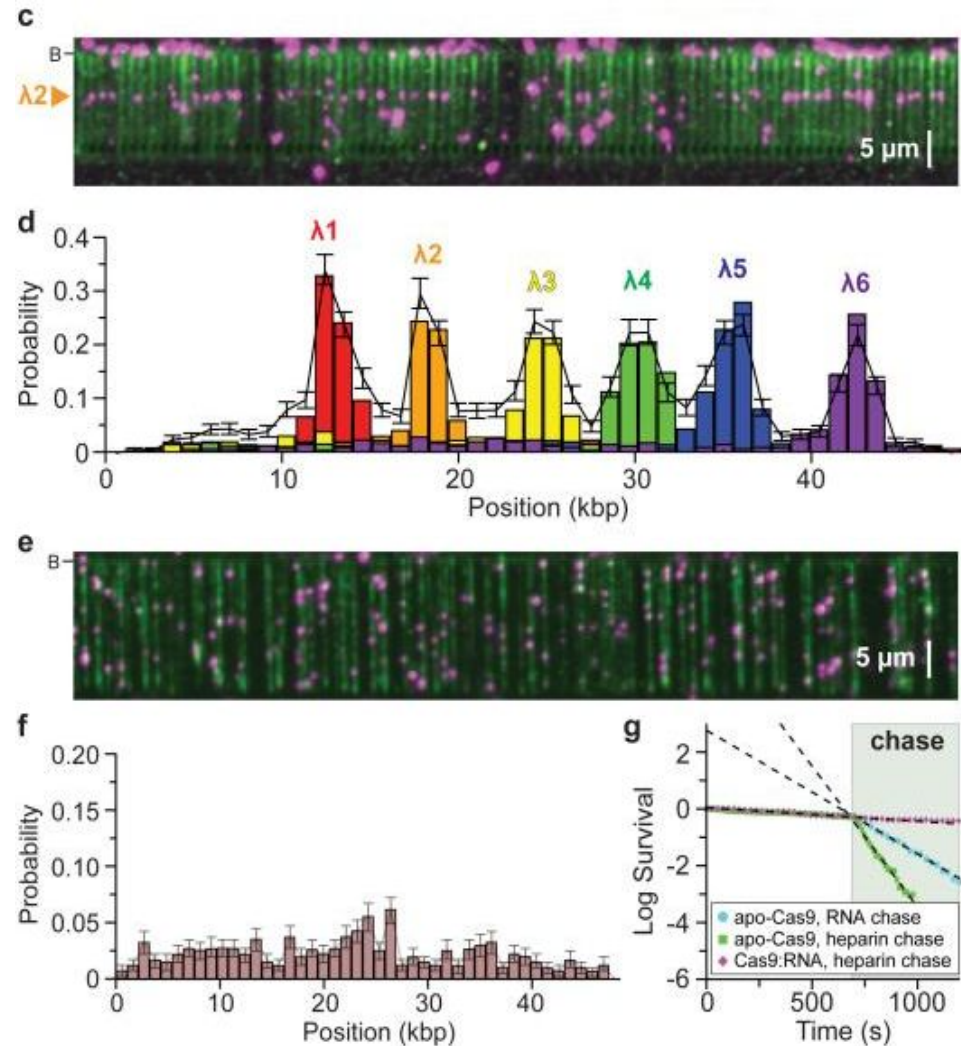
CRISPR/Cas9 bacterial immune system

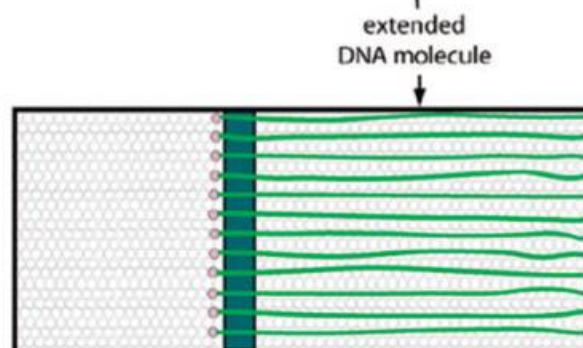
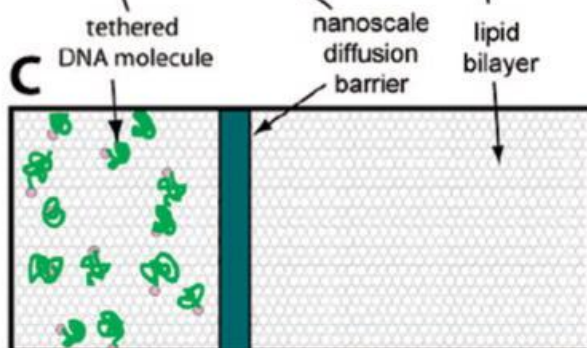
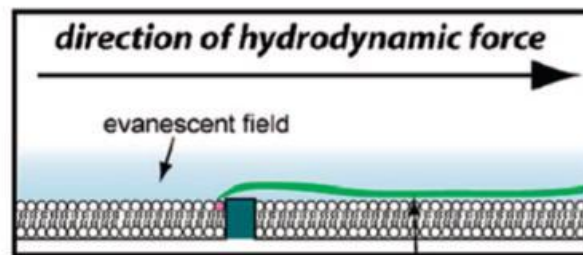
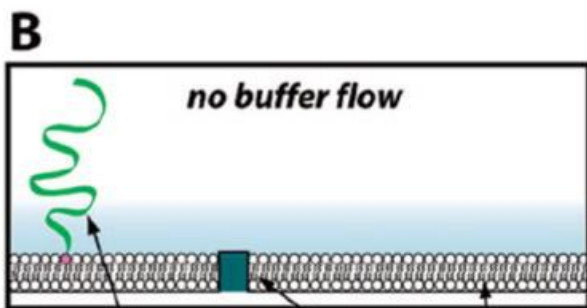


1. Single-molecule visualization of Cas9

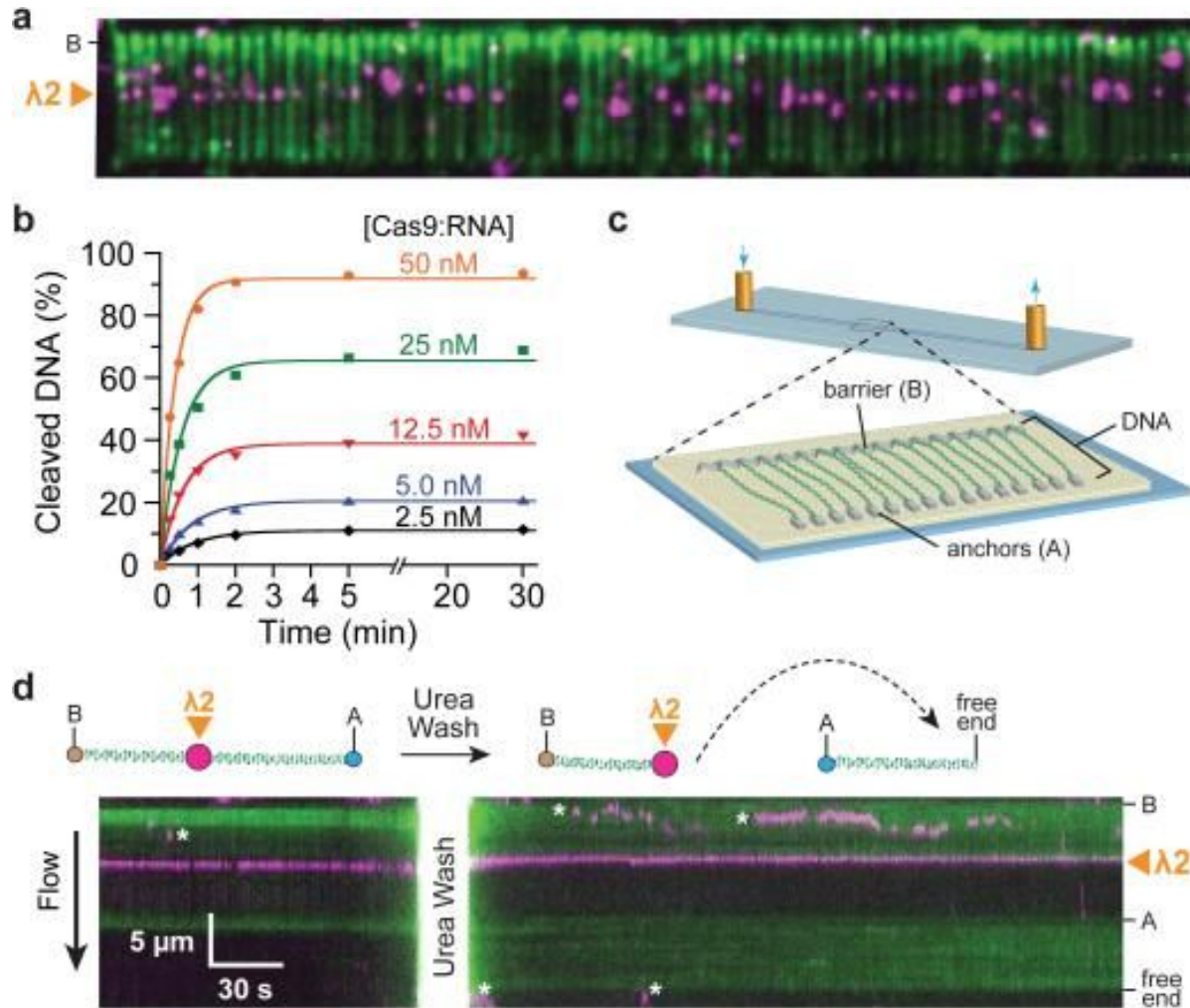


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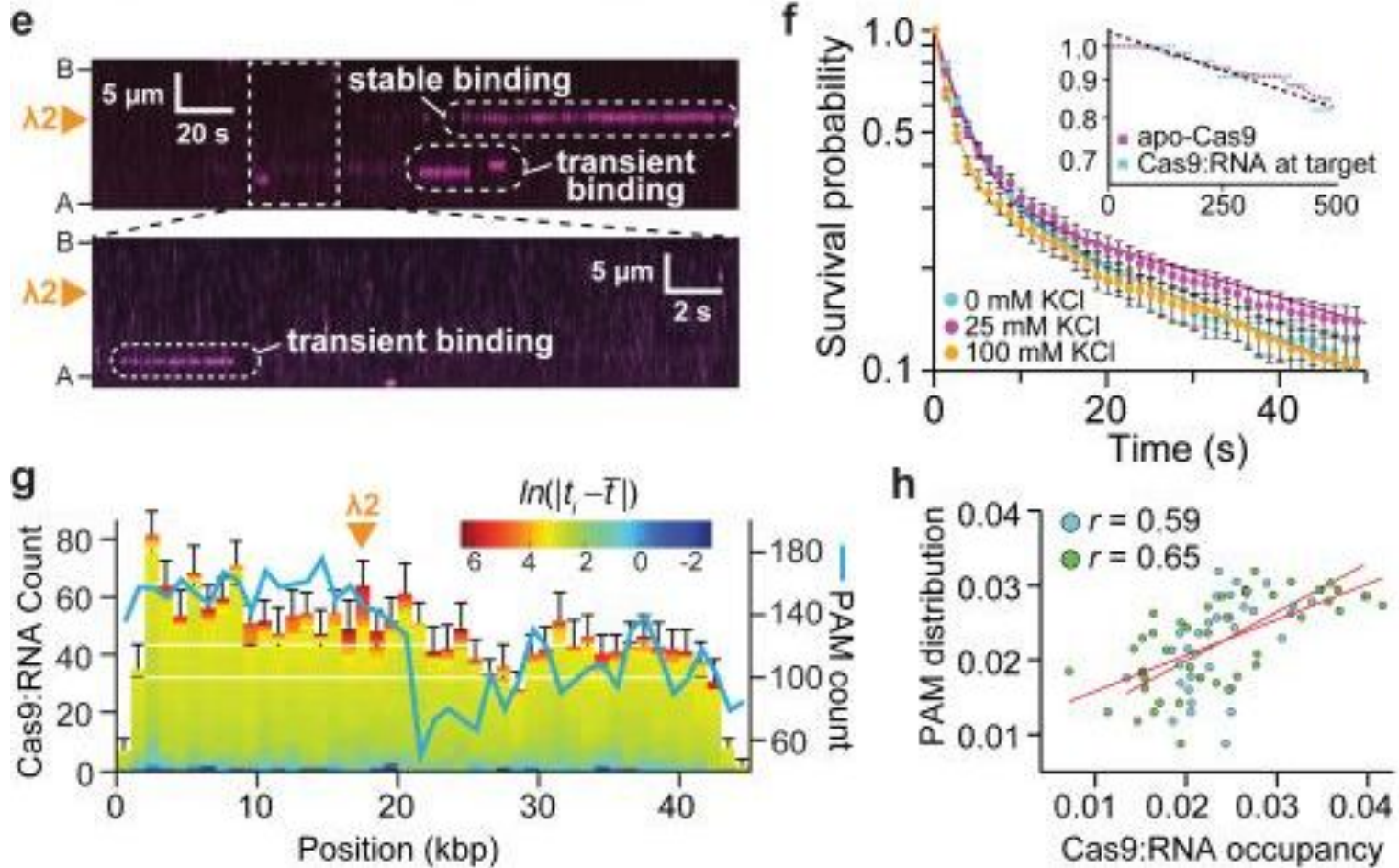




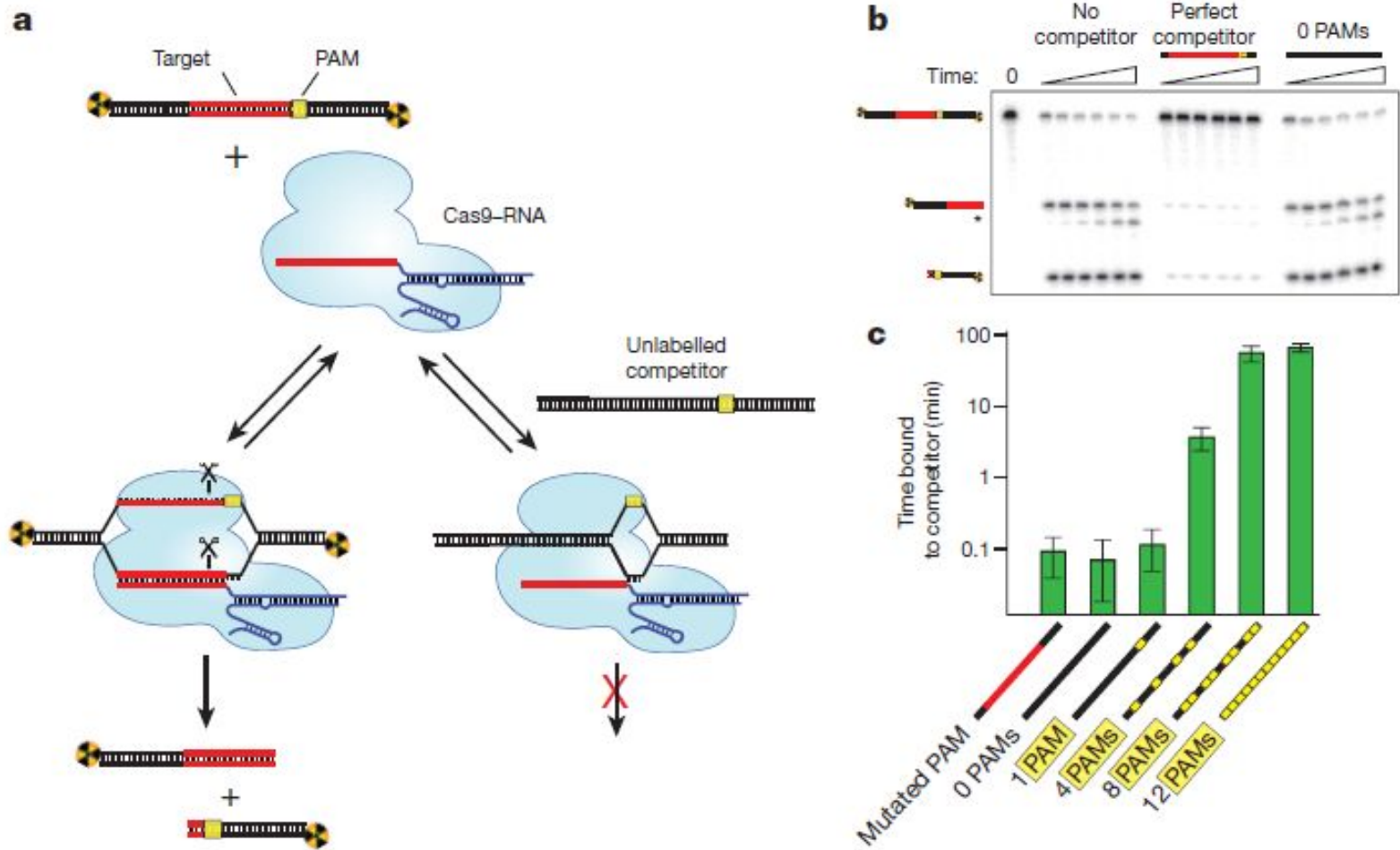
1. Single-molecule visualization of Cas9



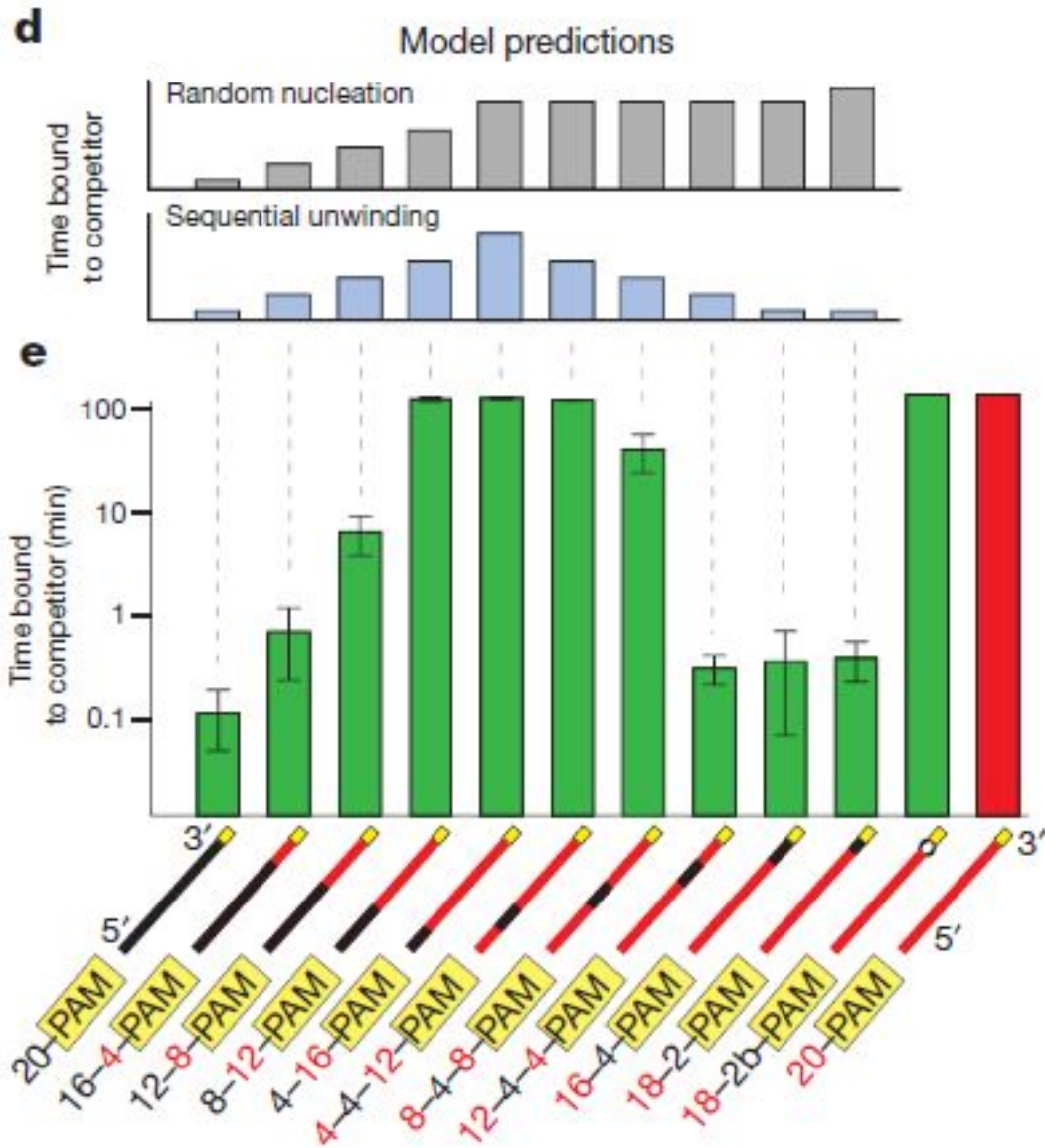
2. Cas9-RNA finds targets by 3D diffusion



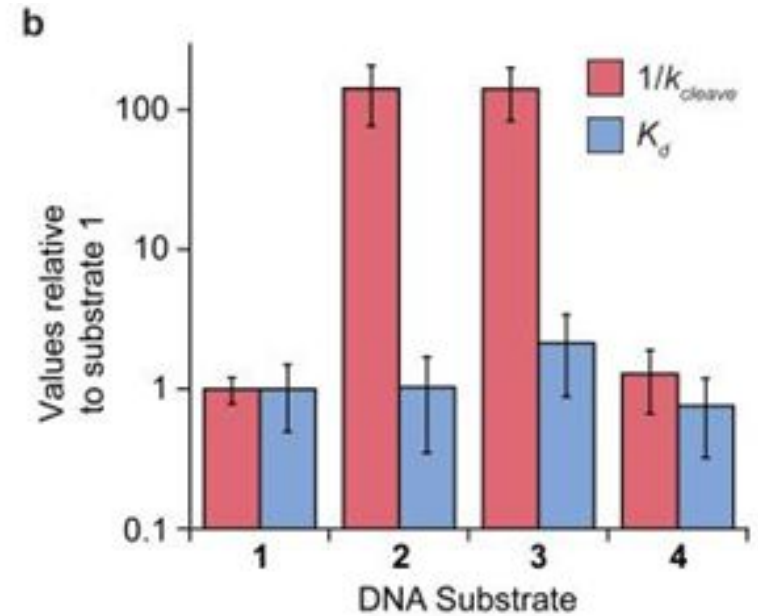
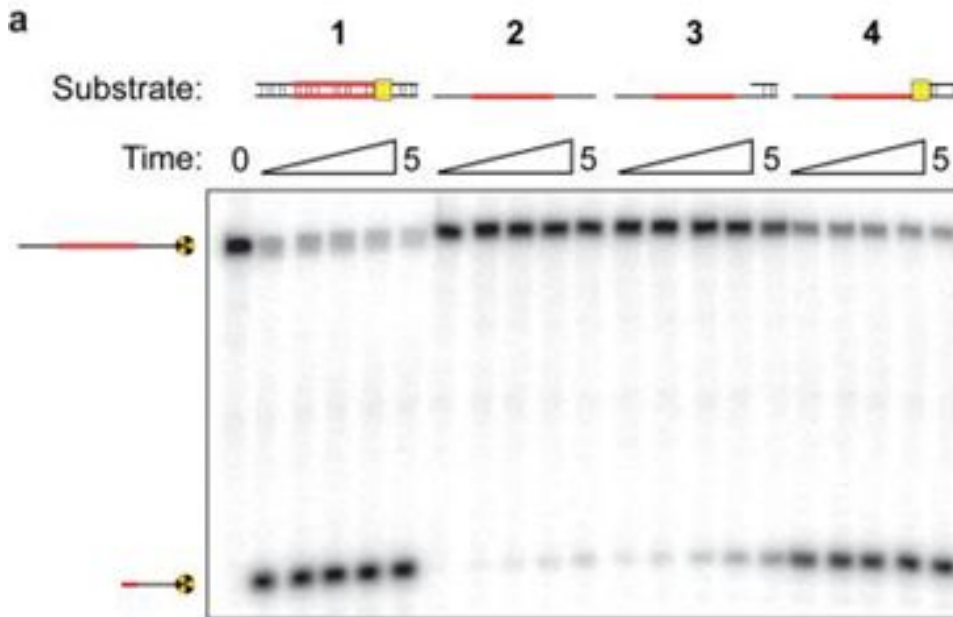
3. A PAM is required for DNA interrogation



4. Mechanism of RNA-DNA heteroduplex formation



5. The PAM triggers Cas9 nuclease activity



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