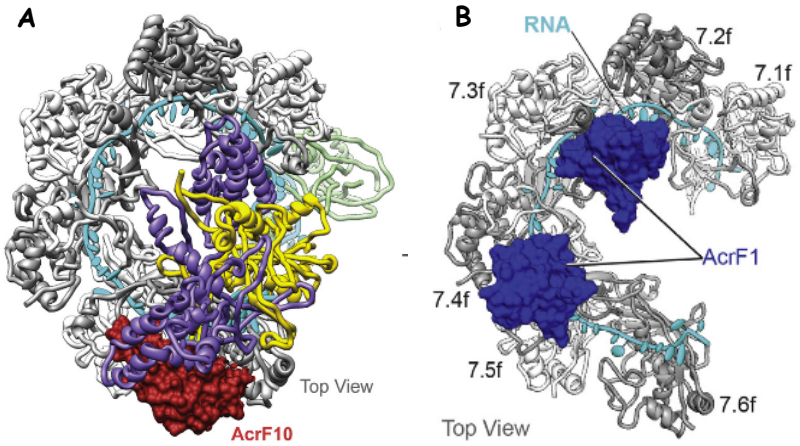


**Figure 1. (A, B)** cryo-EM structures of crRNA-bound multi-subunit Csy complexes bound by AcrF10 (in red in panel A) and two molecules of AcrF1 (in blue in panel B).

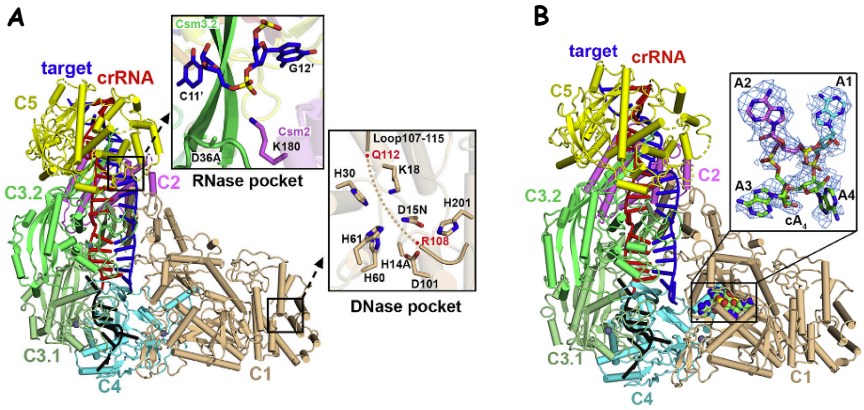


**Figure 2. (A)** Cryo-EM structure of type III-A crRNA and target RNA-bound multi-subunit Csm ternary complex, with panels showing RNase and DNase pockets. **(B)** $cA_4$ bound to the Csm ternary complex, with the density for the bound $cA_4$ shown in the panel.

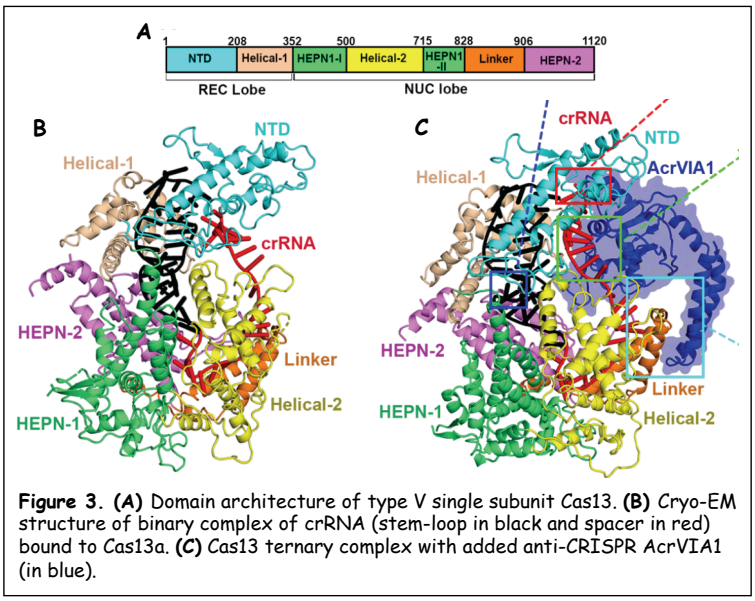


**Figure 3.** **(A)** Domain architecture of type V single subunit Cas13. **(B)** Cryo-EM structure of binary complex of crRNA (stem-loop in black and spacer in red) bound to Cas13a. **(C)** Cas13 ternary complex with added anti-CRISPR AcrVIA1 (in blue).

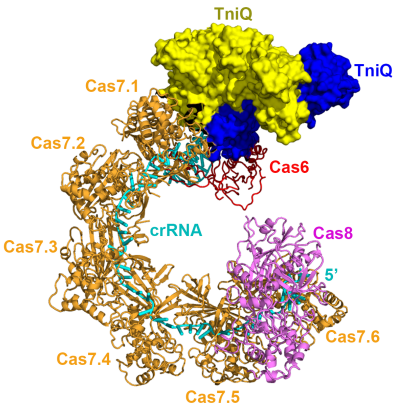


**Figure 4.** The cryo-EM structure of Cascade$^{crRNA}$–TniQ –dsDNA complex.

## Cryo-EM papers from the Patel lab on CRISPR-Cas Surveillance Complexes

(1) Guo, T. W., Bartesaghi, A., Yang, H., Falconieri, V., Rao, P., Merk, A., Eng, E. T., Raczkowski, A. M., Fox, T., Earl, L. A., Patel, D. J. & Subramaniam, S. (2017). Cryo-EM structures reveal mechanism and inhibition of DNA targeting by a CRISPR-Cas surveillance complex. *Cell* 171, 414-426.

(2) Jia, N., Wang, C., Mo, C. Y., Eng, E. T., Marraffini, L. A. & Patel, D. J. (2019). Type III-A CRISPR Csm complexes: Assembly, target RNA recognition, periodic cleavage and autoimmunity. *Mol. Cell* 73, 264-267.

(3) Jia, N., Jones, R., Sukenick, G, & Patel, D. J. (2019). Second messenger $cA_4$ formation within the composite Csm1 Palm pocket of type III-A CRISPR-Cas Csm complex and its release path. *Mol. Cell* 75, 933-943.

(4) Meeske, A. J., Jia, N., Cassel, A., Kozlova, A., Liao, J., Wiedman, M., Patel, D. J. & Marraffini, L. A. (2020). Phage-encoded anti-CRISPR enables full escape from type VIA CRISPR-Cas immunity. *Science* submitted.

(5) Jia, N., Xie, W., De La Cruz, M. J., Eng, E. T. & Patel, D. J. (2020). Structure-function insights into the initial step of DNA integration by a CRISPR-Cas-Transposon complex. *Cell Research* 30, 182-184.