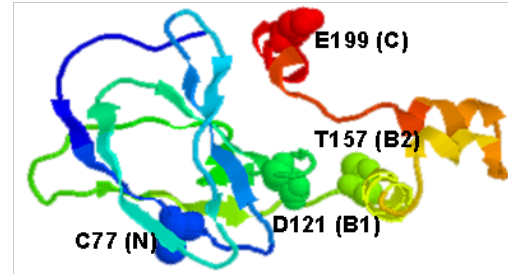


Single-Molecule FRET Reveals Substrate Remodeling by GroEL/ES



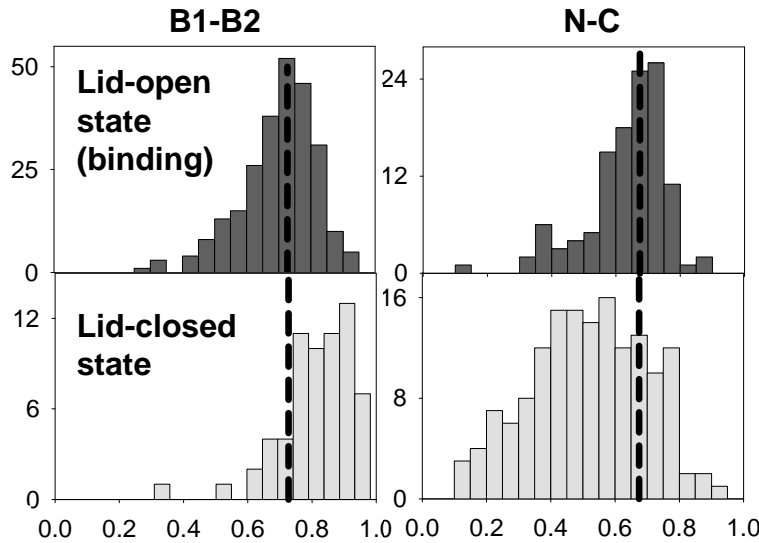
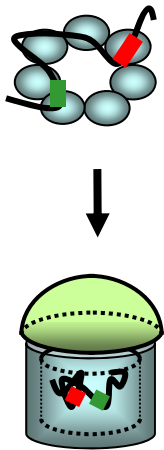
So Yeon Kim, Erik Miller, Judith Frydman, and W.E. Moerner
J. Molec. Biol. **401**, 553-563 (2010)

- VHL is a non-native GroEL/ES substrate
- smFRET shows stochastic behavior of conformational change directly

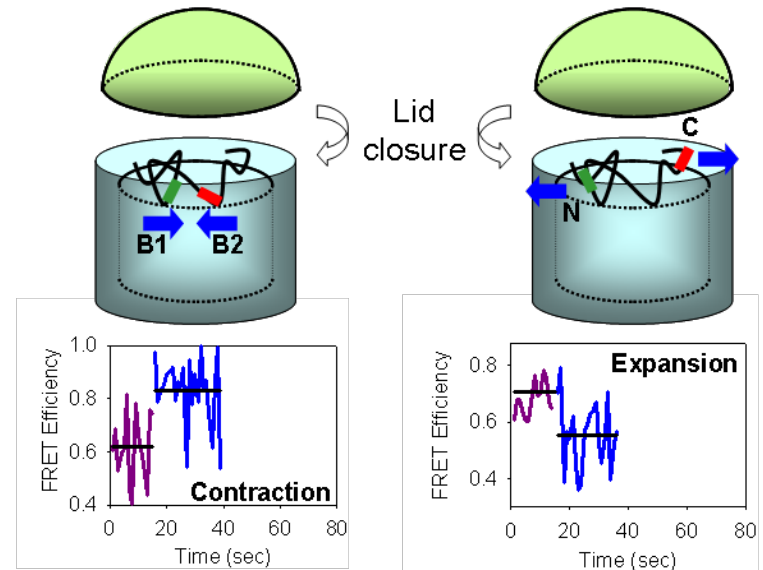


VHL variants for fluorophore labels:
 N terminal (77)
 C terminal (199)
 Box1 (121)
 Box2 (157)

Binding and Encapsulation:



Dynamic smFRET measurements upon ATP addition to GroEL-VHL complex show an active role for GroEL/ES



However, a significant minority of single molecules show the opposite behavior!