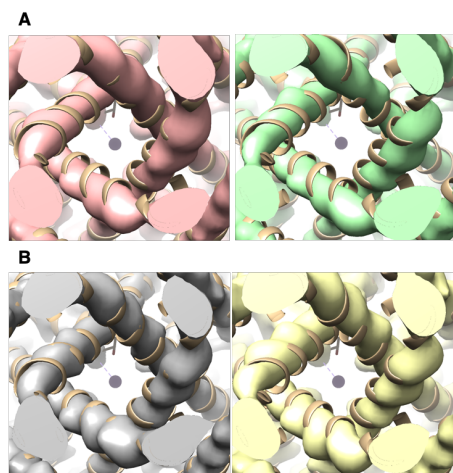
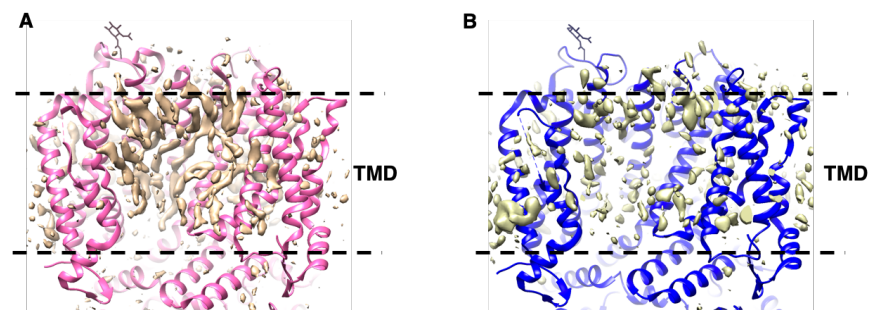


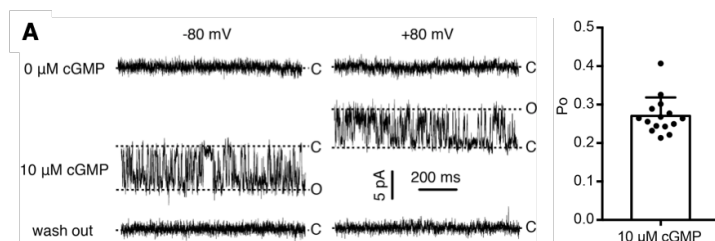
**Figure 1. Biochemistry and screening of CNGA3/CNGB3.** **A.** Gel filtration profile. **B.** SDS page of indicated fraction. **C.** Representative micrograph. **D.** 2D classes.



**Figure 2. Classification of liganded Digitonin and nanodisc samples.** Bottom-up view of S6 pore superimposed with CNGA3/B3 Apo-closed state model. **A.** Left panel: Digitonin closed state. Right panel: Digitonin transition state. **B.** Left to right: Nanodisc closed, transition 1, transition 2, pre-open, and open state.



**Figure 3. Lipid binding profile.** The transmembrane interface of CNGB3 and CNGA3<sub>L</sub>. model shown together with lipid electron density. **A.** Nanodisc closed state, 3.10 Å **B.** Nanodisc open state, 3.60 Å



**Figure 4. Single channel recording of CNGA3/B3 in proteoliposomes made with brain polar extract.** **A.** Left panel: Example single channel currents. Right panel: statistics of all recorded channel open probability. Error bar: SD.