

## **Description of Additional Supplementary Files**

**File name:** Supplementary Movie 1

**Description:** 3D variability analysis prior to final reconstruction of apo-hNav1.8 highlighting the movements of the VSDI S4-S5 linker. Domains are colored following the scheme in Figure 1a.

**File name:** Supplementary Movie 2

**Description:** 3D variability analysis prior to final reconstruction of apo-hNav1.8 highlighting the N-terminal domain (NTD). Domains are colored following the scheme in Figure 1a with the NTD density on the bottom left in white.

**File name:** Supplementary Movie 3

**Description:** Hydrophobic surface of ProTx-I from the hNav1.8-ProTx-I complex. Colors follow the scheme in Figure 4a.

**File name:** Supplementary Movie 4

**Description:** Apo-hNav1.8 to hNav1.8-ProTx-I model morph highlighting the movement of the VSDII S3-S4 linker due to ProTx-I binding. Apo-hNav1.8 is depicted in black and hNav1.8-ProTx-I in blue with ProTx-I in pink.