

### **Description of Additional Supplementary Files**

File name: Supplementary Movie 1

Description: TIRF time-lapse imaging showing the lateral diffusion of mScarlet-tagged PIEZO2 clusters. Cluster tracking was performed using TrackMate and individual tracks are shown as yellow lines.

File name: Supplementary Movie 2

Description: TIRF time-lapse imaging showing the lateral diffusion of mScarlet-tagged PIEZO2-IDR5<sup>del</sup> clusters. Cluster tracking was performed using TrackMate and individual tracks are shown as yellow lines.