

Table S1. Summary of Cryo-EM Data Collection, 3D Reconstruction and Model Refinement. Related to Figure 1 and Figure 3.

	hKCNQ1 _{EM} -CaM (Digitonin)	hKCNQ1 _{EM} -KCNE3- CaM (Digitonin)	hKCNQ1 _{EM} -KCNE3- CaM (PIP2-nanodiscs)
Data acquisition			
Microscope/Camera	Titan Krios/Gatan K2 Summit (RU)		Krios2/K2 (NYSBC)
Voltage (kV)		300	
Defocus range (μM)	1.1 to 2.4	1.1 to 2.4	1.1 to 2.2
Pixel size (\AA)	1.03	1.03	1.09
Total electron dose ($e^-/\text{\AA}^2$)	94	94	67.3
Exposure time (s)	12.5	12.5	10.0
Reconstruction			
Particle number	66,746	39,074	73,640
Resolution (masked, \AA)	3.1	3.1	3.9
RMS deviation			
Bond length (\AA)	0.009	0.007	0.005
Bond angle ($^\circ$)	0.884	0.903	0.848
Ramachandran plot			
Favored (%)	98.16	95.70	95.63
Allowed (%)	1.84	4.30	4.37
Outliers (%)	0.00	0.00	0.00
MolProbity			
Clash score	2.28	2.47	3.55
Rotamer outliers (%)	0.24	0.00	1.47