Longpré et al., http://www.jgp.org/cgi/content/full/jgp.201210822/DC1

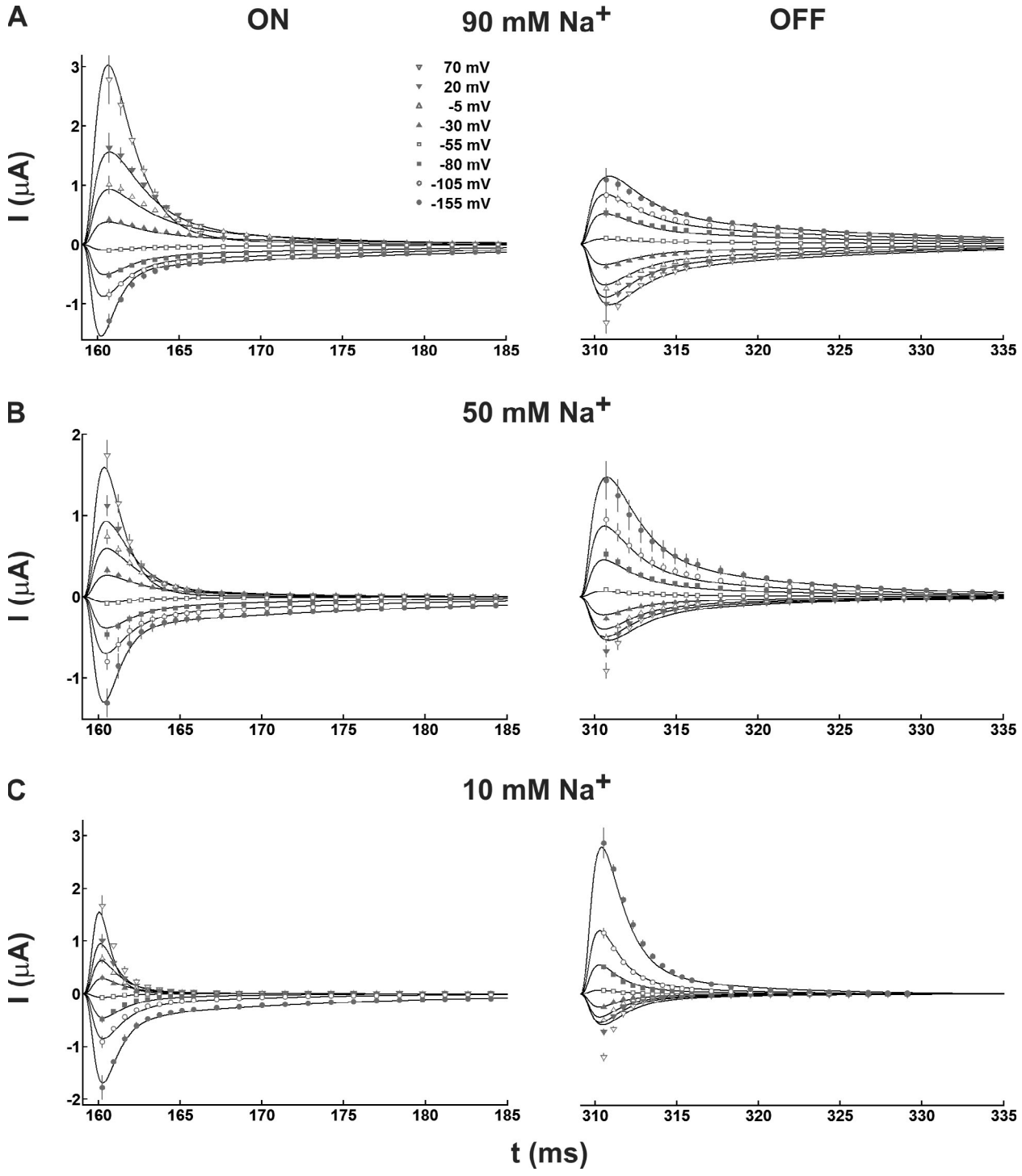


Figure S1. The simulated transient currents resulting from a four-state model (see Fig. S2), where the transition $C_3 \rightarrow C_4$ represents the cooperative binding of two Na^+ ions are compared with experimental data for (A) 90 mM, (B) 50 mM, and (C) 10 mM $[Na^+]_o$. Please note the systematic discrepancies between the simulated and the experimental OFF currents when the membrane potential is going from +20 and +70 mV to −50 mV.

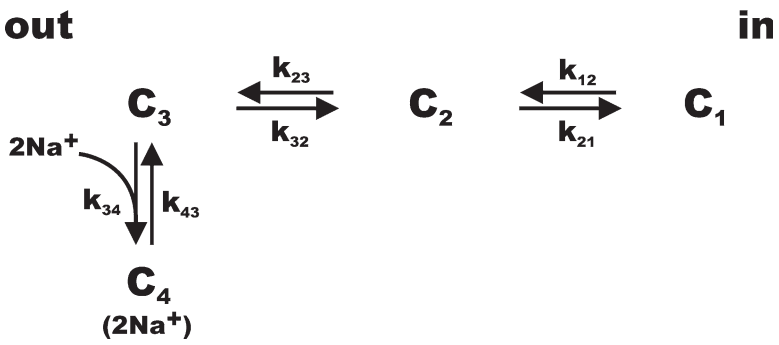
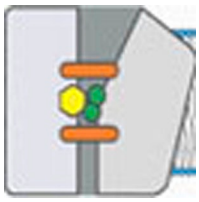


Figure S2. Four-state model featuring a cooperative binding of two Na^+ ions in the transition $C_3 \rightarrow C_4$.



Video 1. The video depicts the cotransport mechanism of SGLT1 in the presence of 0.5 mM αMG ($\sim K_m^{\alpha MG}$), 90 mM $[Na^+]_o$, and a membrane potential of −50 mV. The cartoon represents a true simulation of 210 ms made with the seven-state model and the parameters given in Table 1. Each transition from one state to the other is depicted as a continuous displacement arbitrarily set to last 2 ms, which is the resolution limit of our experimental results. The steps corresponding to intracellular Na^+ and glucose release are depicted with a hatched cotransporter contour to signify that they have been lumped in a single step in this zero-trans model.