

The Pentameric Ligand-Gated Ion Channel (pLGIC) protein family, which includes essential neurotransmitter receptors, is well-known to exhibit sensitivity to their local lipid environment. Erwinia Ligand-gated Ion Channel (ELIC) is a prokaryotic member of the pLGIC family. We recently demonstrated that ELIC selectively binds POPG over POPC or POPE, and that this affinity is state-dependent by computing relative free energies of binding. Furthermore, our SAFEP methodology calculated the absolute free energies of binding between membrane proteins and lipids. Here, we build upon those results to estimate the functional effects of lipid binding on ELIC by comparing the absolute binding