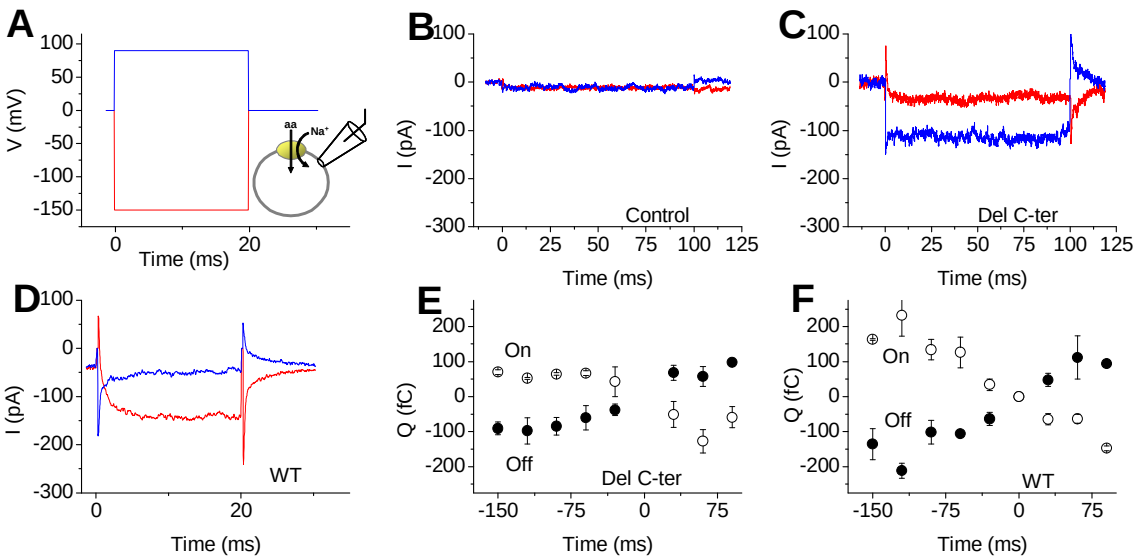
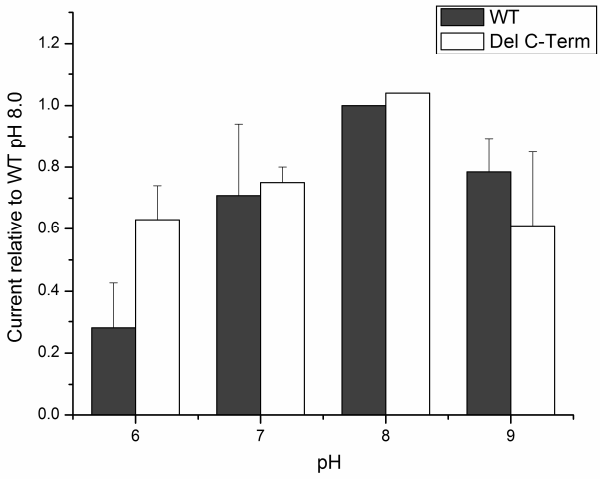
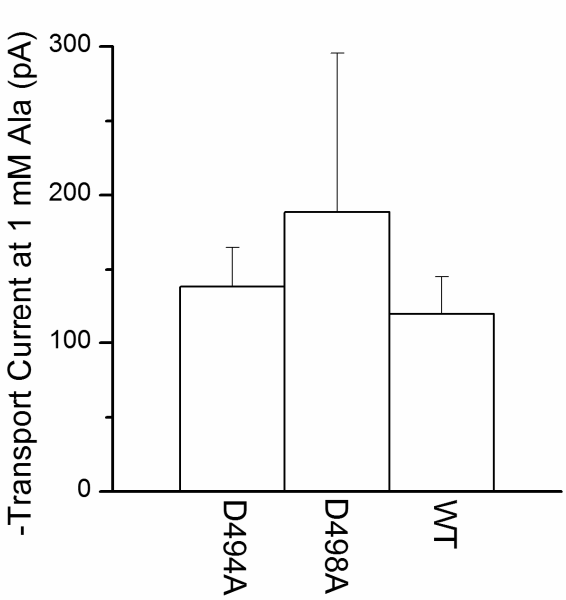
Supplementary Data



Supplementary Figure 1: Voltage jump-induced transient currents are present in $SNAT2_{Del\ C\text{-}ter}$. The voltage jump protocol *(A)* was used to measure 10 mM alanine-sensitive transport and transient currents of non-transfected cell *(B)*, $SNAT2_{Del\ C\text{-}ter}$ *(C)*, and $SNAT2_{WT}$- *(D)* expression cells. The extracellular solution contained 140 mM NaMes and the intracellular solution contained 140 mM KMes. *E* and *F*, voltage dependence of the charge moved in the on response and off response in $SNAT2_{Del\ C\text{-}ter}$ *(E)* and $SNAT2_{WT}$- *(F)* expressing cells.



Supplementary Figure 2: pH dependence of $SNAT2_{WT}$ and $SNAT2_{Del\ c\text{-}term}$ expressing cells' inward current response to 200µl alanine. The external solution contained 140mM NaMes, and the pipette solution contained 140mM KMes at +60mV transmembrane potential. Responses from all cells were normalized to the response of $SNAT2_{WT}$ at pH 8.0.



Supplementary Figure 3: Comparison of average transport currents elicited by application of 1 mM alanine to wild-type SNAT2, and SNAT2 with D494A and D498A mutations. The transmembrane potential was 0 mV