

Supplement Fig. 1. Effects of heat inactivated PKC on Kv4.3-S. Injected heat inactivation PKC (27.6 nL) had no significant effects on peak IV,  $G/G_{\max}$ , steady-state inactivation and closed-state inactivation (A,B,C and D, respectively). PKC was pretreated at 50°C for 30 min. Data from two-microelectrode recordings were leakage subtracted.

Supplement Fig. 2. Effects of heat inactivated PKC on Kv4.3-L. Injected heat inactivation PKC (27.6 nL) had no significant effects on peak IV,  $G/G_{\max}$ , steady-state inactivation and closed-state inactivation (A,B,C and D, respectively). PKC was pretreated at 50°C for 30 min. Data from two-microelectrode recordings were leakage subtracted.

Supplement Fig.3. Effects of PKC carrying buffer on Kv4.3-S. Injected carrying buffer (27.6 nL) had no significant effects on peak IV,  $G/G_{\max}$ , steady-state inactivation and closed-state inactivation (A,B,C and D, respectively). Carrying buffer for PKC contains: 100 mM NaCl, 20 mM Tris-HCl, 1 mM DTT, 500  $\mu$ M EDTA, 500  $\mu$ M EGTA, 10% glycerol, PH=7.5. Data from two-microelectrode recordings were leakage subtracted.

Supplement Fig. 4. Effects of PKC carrying buffer on Kv4.3-L. Injected carrying buffer (27.6 nL) had no significant effects on peak IV,  $G/G_{\max}$ , steady-state inactivation and closed-state inactivation (A,B,C and D, respectively). Data from two-microelectrode recordings were leakage subtracted.