# Voltage-dependent activation in EAG channels follows a ligand-receptor rather than a mechanical-lever mechanism

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Running Title: Voltage-dependent gating mechanism of EAG channels

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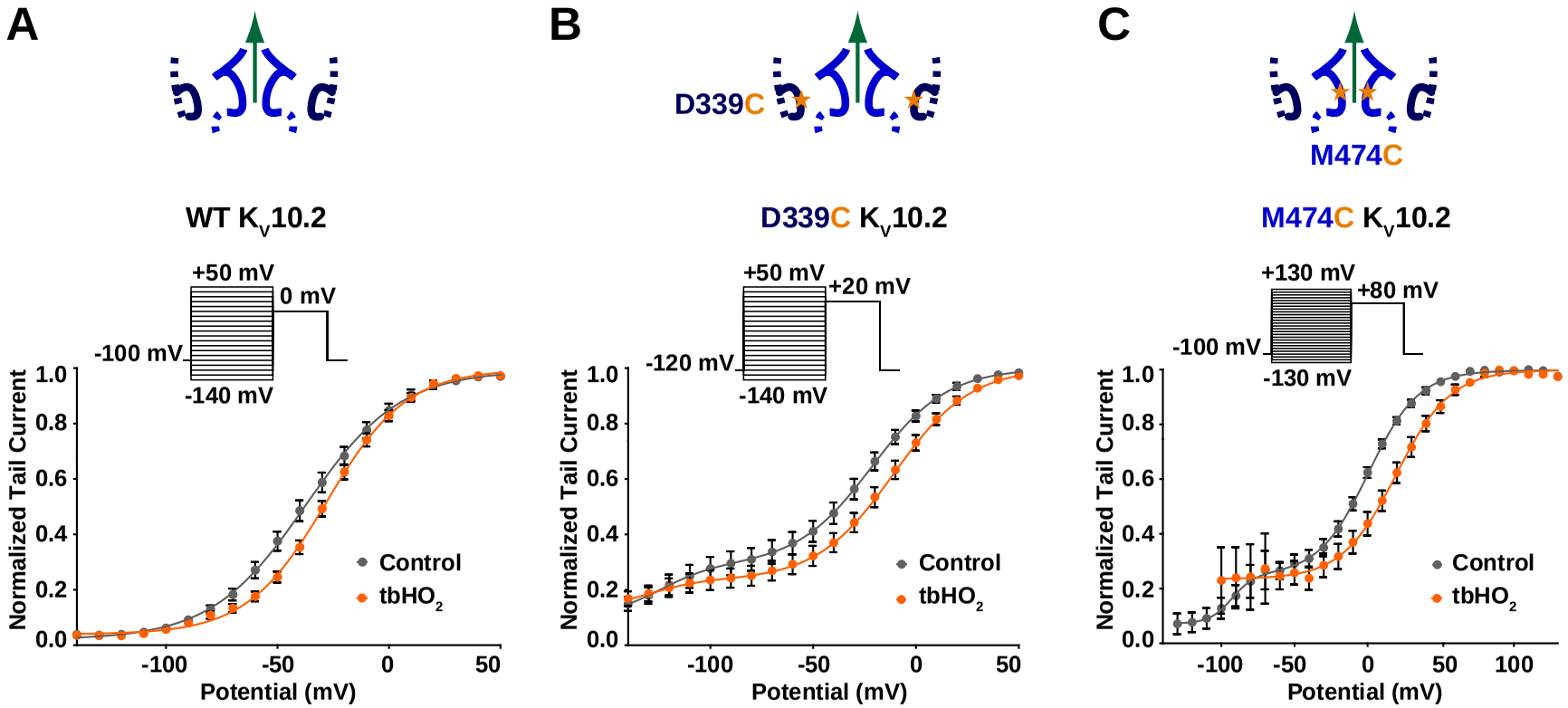
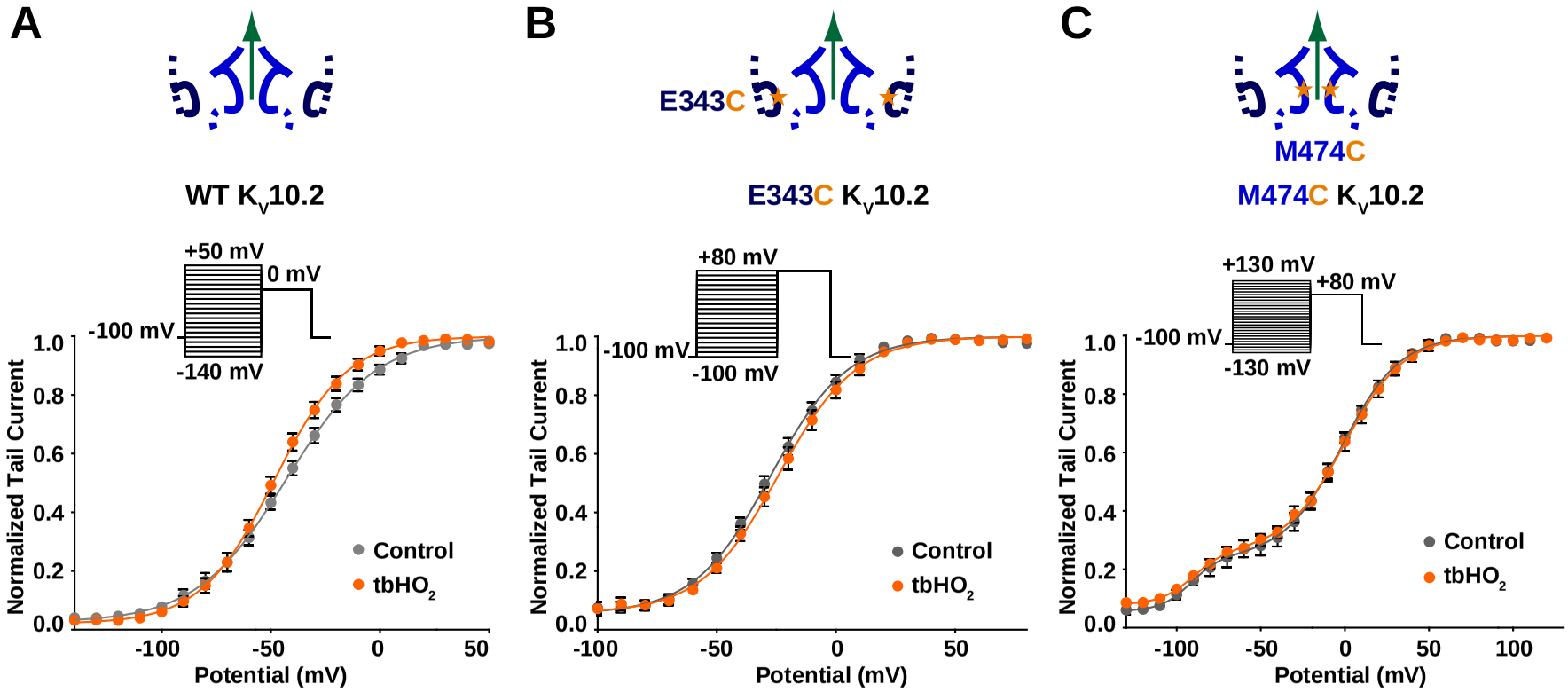
**Keywords:** EAG channel, Kv10.2 channel, voltage dependence, S4-S5 linker, S6 C-terminus, N-CAP, PAS domain, allostery, voltage-gated cation channel

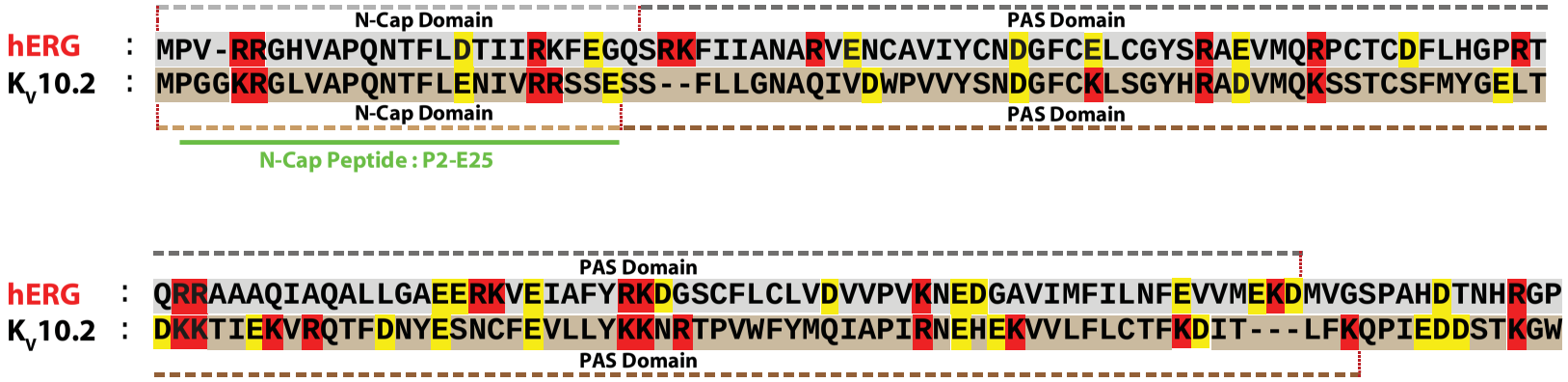
SUPPLEMENTAL FILE




**Supplemental figure 1: activation curve in WT, D339C and M474C K$_V$10.2, in presence and absence ot 0.2 mM tbHO$_2$ for 2h. A:** Activation curve of WT K$_V$10.2, obtained from recordings as in Figure 2C, after 2h incubation in Tyrode without (control) or with 0.2 mM tbHO$_2$ (tbHO$_2$). **B:** Activation curve of D339C K$_V$10.2, obtained from recordings as in Figure 2E, after 2h incubation in Tyrode without (control) or with 0.2 mM tbHO$_2$ (tbHO$_2$). **C:** Activation curve of M474C K$_V$10.2, obtained from recordings as in Figure 2G, after 2h incubation in Tyrode without (control) or with 0.2 mM tbHO$_2$ (tbHO$_2$).




**Supplemental figure 2: activation curve in WT, E343C and M474C $K_V$10.2, in presence and absence ot 2 mM $tbHO_2$ for 15 min. A:** Activation curve of WT $K_V$10.2, obtained from recordings as in Figure 4C, after 15 minutes incubation in Tyrode without (control) or with 2 mM $tbHO_2$ ($tbHO_2$). **B:** Activation curve of E343C $K_V$10.2, obtained from recordings as in Figure 4E, after 15 minutes incubation in Tyrode without (control) or with 2 mM $tbHO_2$ ($tbHO_2$). **C:** Activation curve of M474C $K_V$10.2, obtained from recordings as in Figure 4G, after 15 minutes incubation in Tyrode without (control) or with 2 mM $tbHO_2$ ($tbHO_2$).




**Supplemental figure 3: K$_V$10.2 N-Cap and PAS domains.** The alignment was obtained using Cobalt (Papadopoulos and Agarwala, 2007).