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Supporting Material

Redox-regulated heterogeneous thresholds for ligand recruitment among InsP3R Ca2+ release channels

Horia Vais, Adam P. Siebert, Zhongming Ma, Marisabel Fernández-Mongil, J. Kevin Foskett, and Don-On Daniel Mak

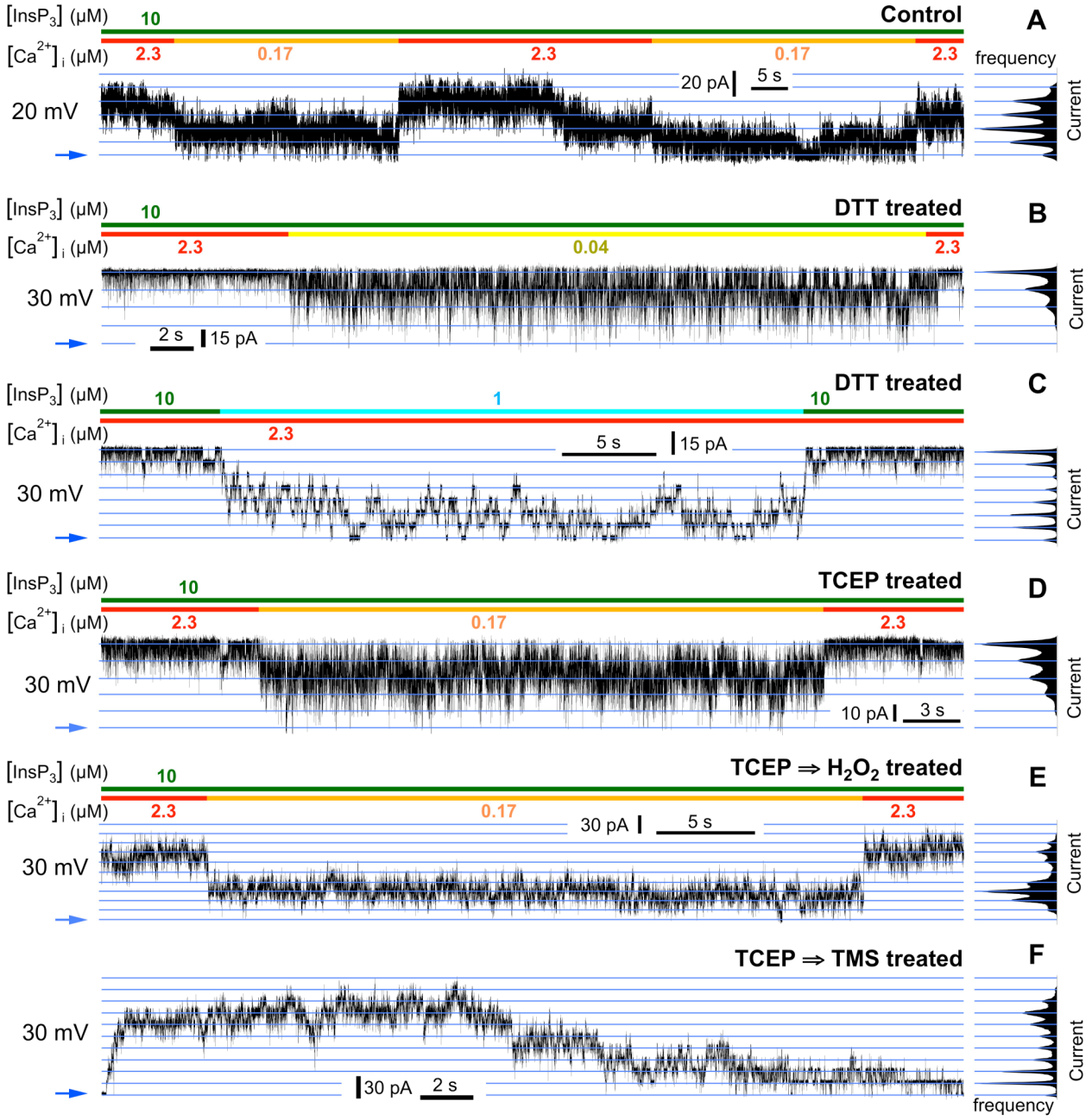

FIGURE S1 Current traces of homotetrameric recombinant $InsP_3R$-3 channels in cyto-out membrane patches obtained from isolated DT40-KO-r-$InsP_3R$-3 nuclei. (*A*) Current trace showing reversible changes in N_A when $InsP_3R$-3 channels were alternately exposed to optimal (2.3 μM) and sub-optimal (170 nM) $[Ca^{2+}]_i$. (*B*) Current trace showing the lack of change in N_A when $InsP_3R$-3 channels were alternately exposed to optimal and resting (40 nM) $[Ca^{2+}]_i$ after DTT treatment (3 mM for > 60 min). (*C*) Current trace showing reversible decrease in N_A when DTT-treated channels were exposed to extreme reduction of $[InsP_3]$ from 10 to 1 μM. (*D*) Current trace showing the absence of change in N_A when channels were alternately exposed to optimal and sub-optimal $[Ca^{2+}]_i$ after TCEP treatment (6 mM for > 90 min). (*E*) Current trace showing the restoration of change in N_A when $InsP_3R$-3 channels were alternately exposed to optimal and sub-optimal $[Ca^{2+}]_i$ after treatment with TCEP (6 mM for 120 min) and then H_2O_2 (5 mM for 60 min). (*F*) Current trace showing channel inactivation in constant presence of optimal $[InsP_3]$ (10 μM) and $[Ca^{2+}]_i$ (2.3 μM) after treatment with TCEP (6 mM for 120 min) and then TMS (100 μM for 60 min). At least 10 channels were activated by a jump in $[InsP_3]$ from 0 to 10 μM at the beginning of the trace.