

Csanády and Töröcsik, <http://www.jgp.org/cgi/content/full/jgp.201311089/DC1>

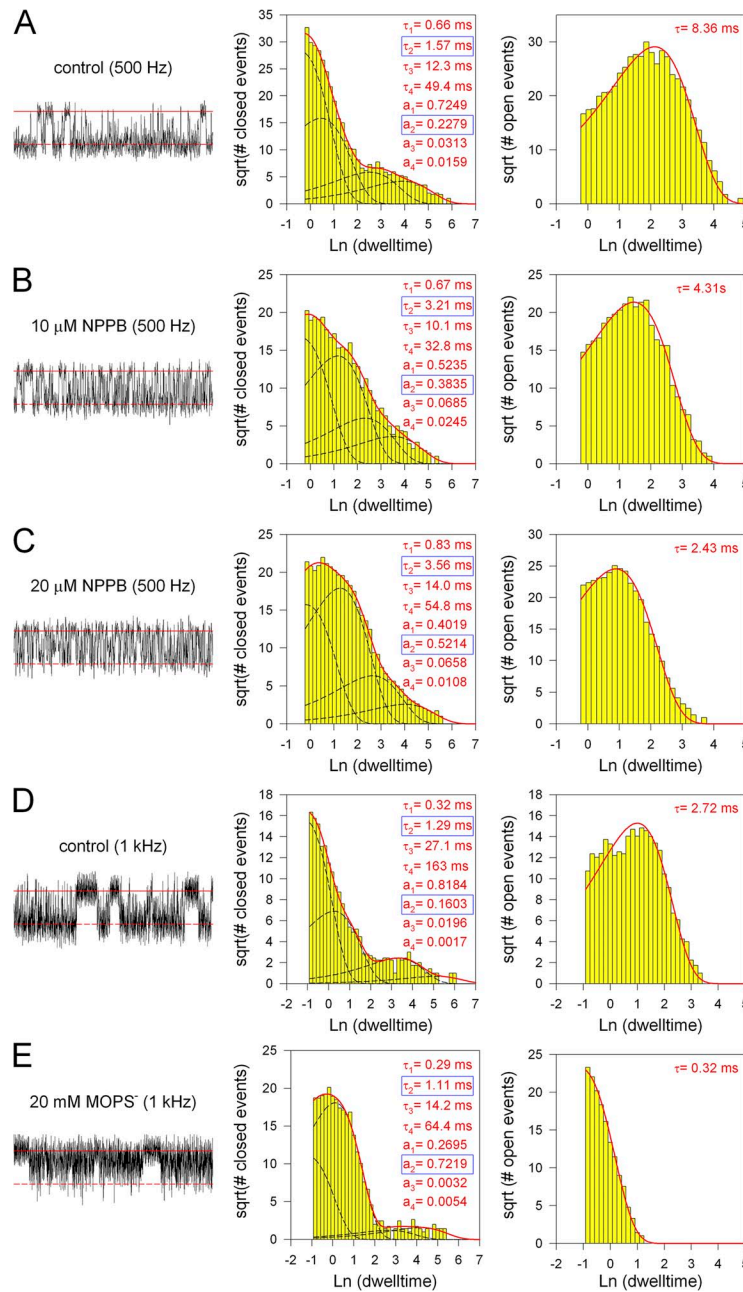


Figure S1. Mean blocked dwell time at -120 mV is ~ 3 ms for NPPB and ~ 1 ms for MOPS⁻. (A–E; left) 1-s segments of recording of single locked-open E1371S CFTR channels at -120 mV at bandwidths of 500 Hz (A–C) and 1 kHz (D and E). Red solid and dashed lines indicate closed and fully open (-1 pA) current levels. (Right) Closed and open dwell-time histograms, obtained after idealization by half-amplitude threshold crossing, displayed using logarithmic binning and square root-transformed ordinates (Sigworth and Sine, 1987. *Biophys. J.* 52:1047–1054). Maximum likelihood fitting by sums of exponentials (red solid lines) combined with the log-likelihood ratio test (Csanády, 2006. *Biophys. J.* 90:3523–3545) identified one component for open times, but four components for closed times (black dashed lines; compare to Bompadre et al., 2005. *J. Gen. Physiol.* 125:377–394); time constants and fractional amplitudes are indicated. The small shoulder on the open-time histogram in D reflects contamination by spurious threshold crossing events caused by noise. Compared with the control (A) dwell-time distributions, the application of NPPB at (B) 10 and (C) 20 μ M caused the appearance of an ~ 3 -ms closed-time component with dose-dependent fractional amplitude (blue boxes), while decreasing mean open time. Similarly, compared with the control (D) dwell-time distributions, the application of 20 mM MOPS⁻ increased the fractional amplitude of an ~ 1 -ms closed-time component (blue boxes), while decreasing mean open time.

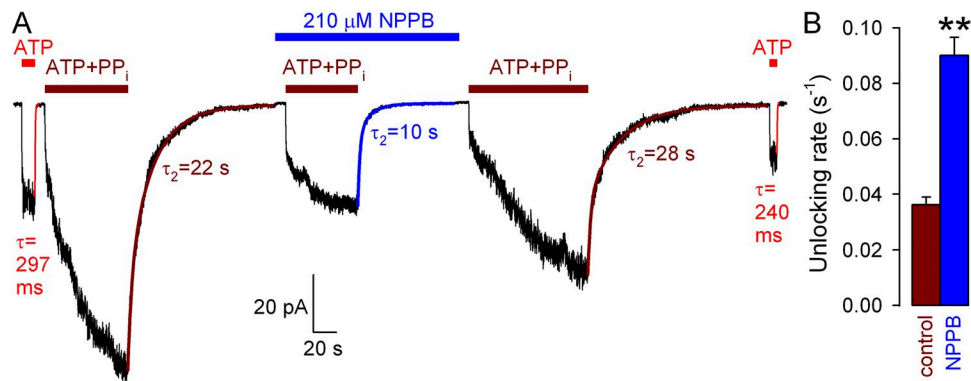


Figure S2. NPPB accelerates nonhydrolytic closure of WT CFTR locked open by ATP plus pyrophosphate. (A) Macroscopic WT CFTR current at -40 mV elicited by exposures to either 2 mM ATP (red bars), or to 0.1 mM ATP plus 2 mM pyrophosphate (brown bars) in the absence or presence of 210 μ M NPPB (blue bar). Red lines, single-exponential fits (τ , time constants representing mean burst duration under hydrolytic conditions); brown and blue lines, double exponential fits (τ_2 , slow time constants, representing mean locked-open duration). (B) Macroscopic unlocking rates (bars, $1/\tau_2$) in the absence (brown) and presence of NPPB (blue).