Supplemental Information

1) ΔF508-CFTR expressed in CFPAC-1 epithelial cells also demonstrates unstable full and partial NBD dimers.

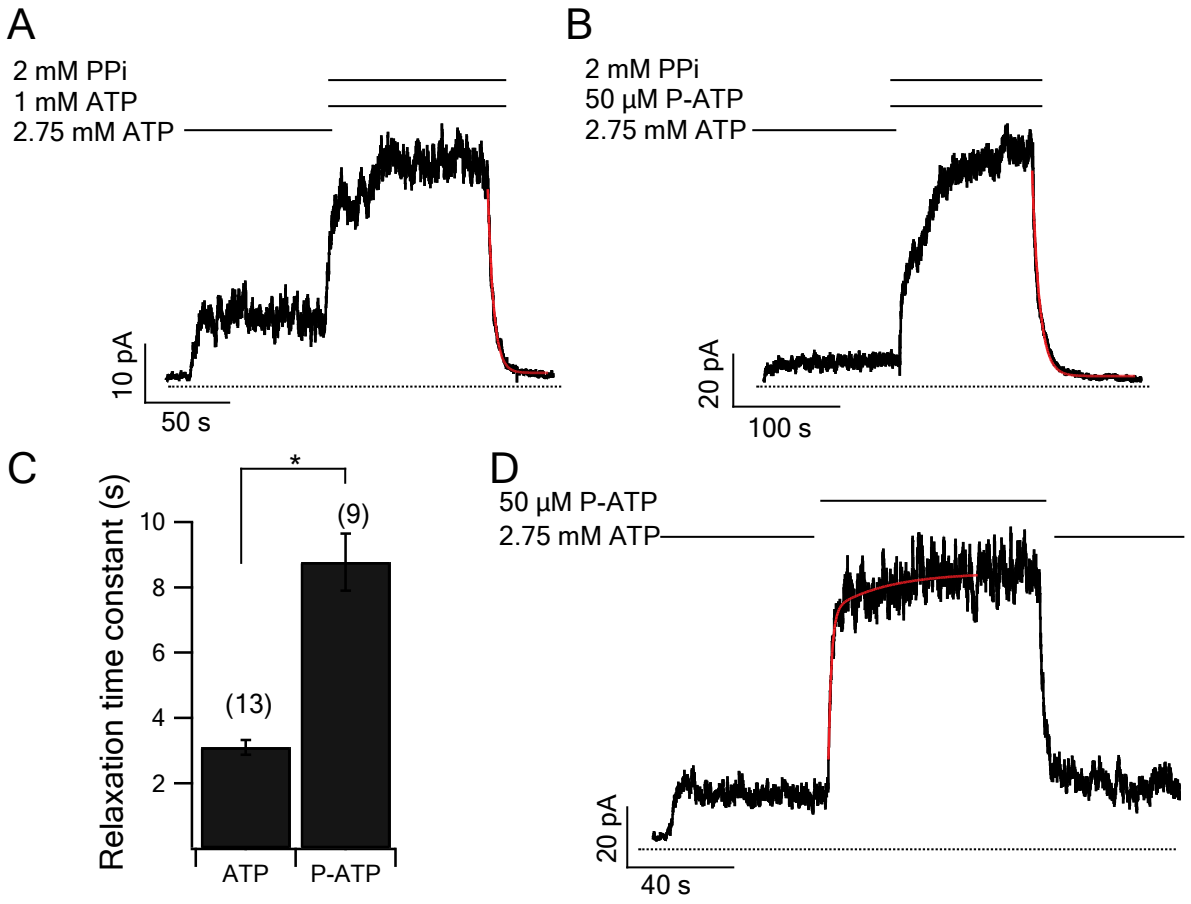

Figure S1. Properties of ΔF508-CFTR expressed in CFPAC-1 cells. **A.** A representative current trace of ΔF508-CFTR in the presence of 1 mM ATP and 2 mMPP_i (n = 13). **B**. A representative trace of ΔF508-CFTR locked open by 50 µM P-ATP and 2 mMPP_i (n = 9).**C**. Summary of the relaxation time constant (τ) for PP_i-locked open ΔF508-CFTR with P-ATP or ATP.*, P < 0.01.**D.** A representative current trace of ΔF508-CFTR for the ATP/P-ATP ligand exchange experiment (Slow phase: τ = 5.93 ± 1.1 s; fast phase: τ = 0.85 ± 0.13 s (n = 9).

2) Western Blot analysis of WT or mutant CFTR expression:

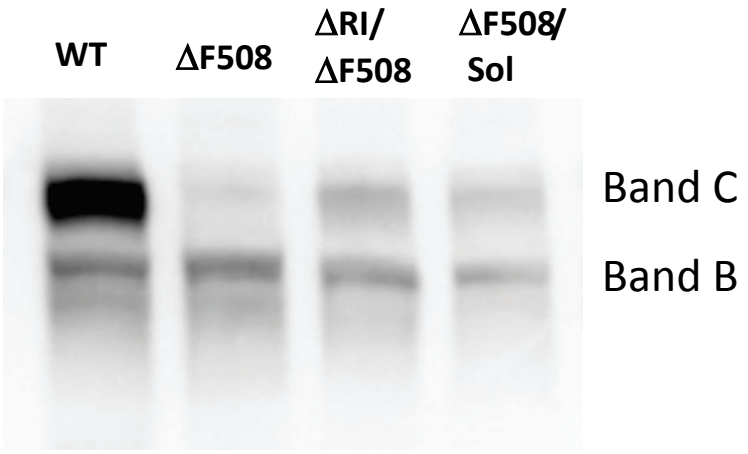

Figure S2: Western blot analysis for WT, ΔF508, ΔRI/ΔF508 and ΔF508/Sol (ΔF508/F494N/Q637R) incubated at 37 °C. Mature fully-glycosylated CFTR and core-glycosylated CFTR are labeled as Band C and Band B, respectively. N = 3.

Western Blot: Transfected cells from confluent 35-mm dishes were washed with PBS and were lysed in 1x Laemmli sample buffer. DNA was sheared by brief sonication. Whole cell lysates were separated on 7.5% Tris-HCl Ready gel (Bio-Rad, Hercules, CA) and transferred onto a nitrocellulose membrane. The membrane was blocked with 5% milk in TBST buffer (20 mM Tris, 137 mM NaCl, 0.05%Tween) at 4^{o}C overnight and then probed with primary antibody against CFTR (clone M3A7, Chemicon, Temecula, CA) in TBST at4^{o}C overnight. The membrane was washed with TBST three times and then incubated with the horseradish peroxidase-conjugated secondary antibody (donkey anti-mouse IgG; Jackson Immuno Research Laboratories, West Grove, PA) for 2 h at room temperature. The membrane was developed with chemiluminescence reagent (Pierce, Rockford, IL) and the image was acquired by ChemiDoc XRS+ system (BioRad, Hercules, CA).