

Supporting Information

Evidence that polyphenols do not inhibit the phospholipid scramblase TMEM16F

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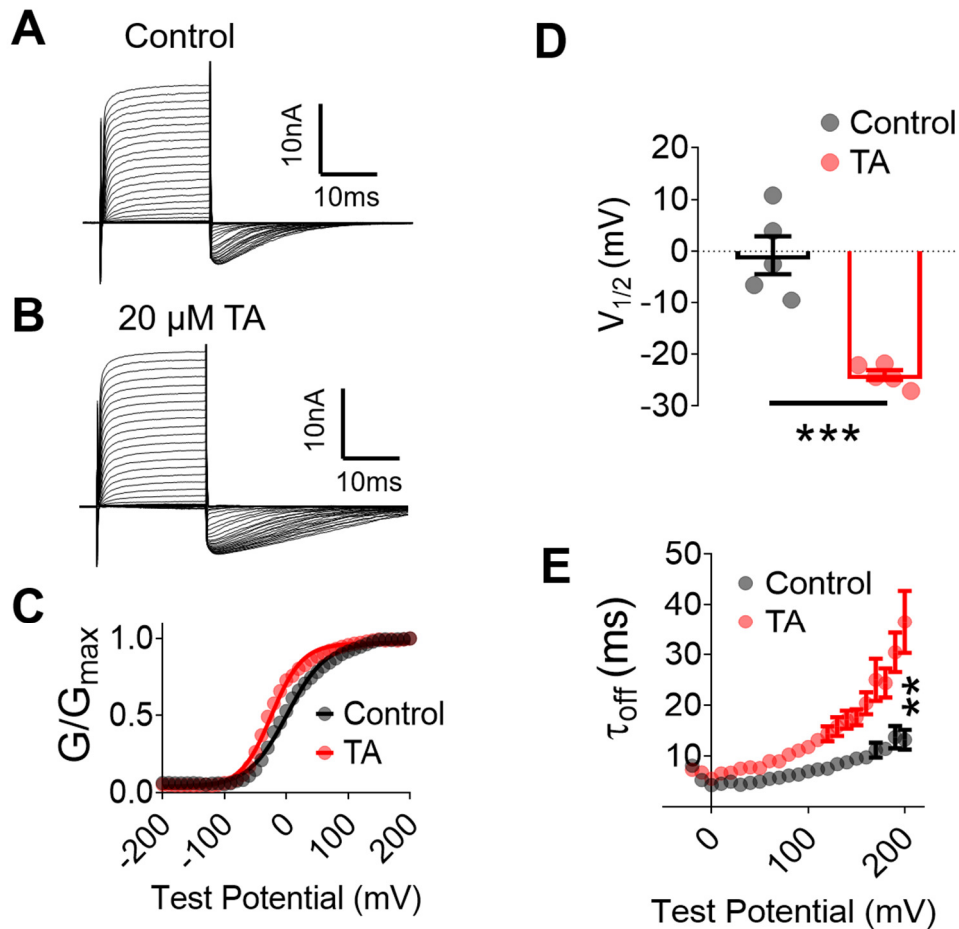


Figure S1. TA activates BK channels. *A*, representative BK currents recorded from HEK-293T cells overexpressed BK- α subunit under outside-out configuration. Intracellular solution contained 100 μM Ca^{2+} . Currents were evoked by steps from -200 to $+200$ mV with 10 mV increments and holding potential was set at -60 mV. *B*, representative BK currents recorded from outside-out patches containing 100 μM Ca^{2+} in the pipette and 20 μM TA from extracellular side. *C*, mean G - V relations of the BK channels with and without TA. Relative conductance was determined by measuring the amplitude of tail currents 400 μs after repolarization to a fixed membrane potential (-60 mV). The smooth curves represent Boltzmann fits $G/G_{\text{max}} = 1/(1 + \exp(-ze(V - V_{1/2})/kT))$. G_{max} represents tail current amplitude in response to depolarization to $+200$ mV. Error bars represent SEM ($N=5$). *D*, $V_{1/2}$ obtained from C. $V_{1/2}$ in the absence and presence of TA were -0.77 ± 3.7 mV and -24.0 ± 1 mV, respectively. Student's t-test was performed and *** represents $p < 0.001$ ($N=5$). *E*, τ_{off} obtained from single exponential fitting of the tail currents for both control and in the presence of TA. Average τ_{off} at 200 mV were 13.2 ± 2.0 ms and 36.5 ± 6.2 ms, respectively. Student's t-test was performed and ** represents $p < 0.01$ ($N=5$).

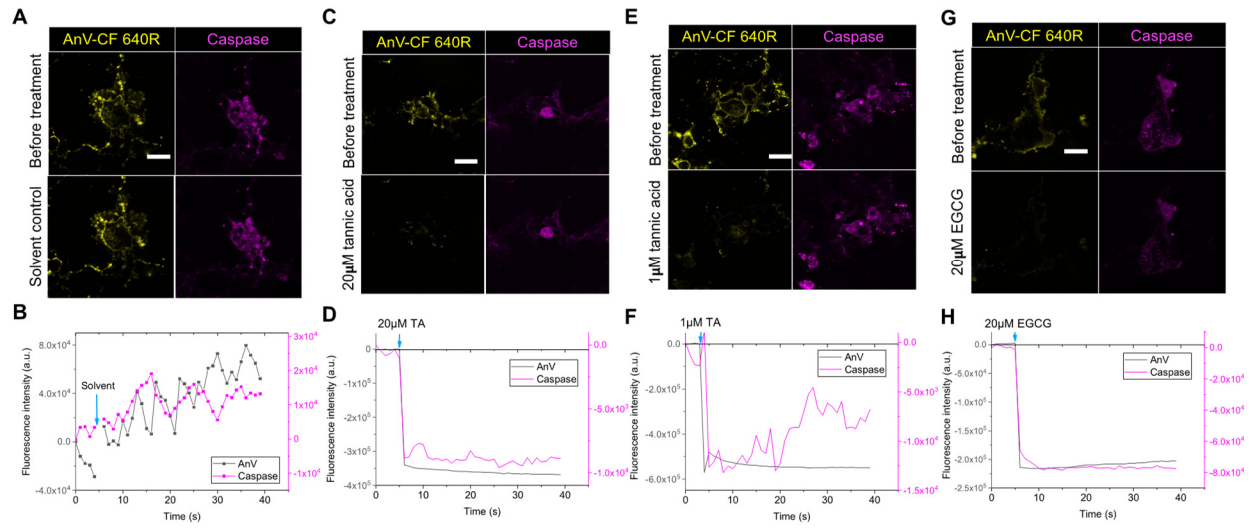


Figure S2. TA and EGCG instantaneously suppress fluorescence signal from AnV-CF640R that are bound to PS on the surface of apoptotic cells. *A, C, E* and *G*, representative images showing the effect of control (*A*), 20 μM TA (*C*), 1 μM TA (*E*), and 20 μM EGCG (*G*) on AnV-CF640R signal (yellow) on membrane surface of STS-induced apoptotic cells, which are labeled by caspase 3/7 dye (magenta). Scale bars = 25 μm . *B, D, F* and *H*, plots show the quantification of AnV and caspase dye fluorescence intensity before and after treatments of control (*B*), 20 μM TA (*D*), 1 μM TA (*F*) and 20 μM EGCG (*H*) of each cell in *A, C, E* and *G*, respectively. All images are representatives of at least three independent biological replicates.

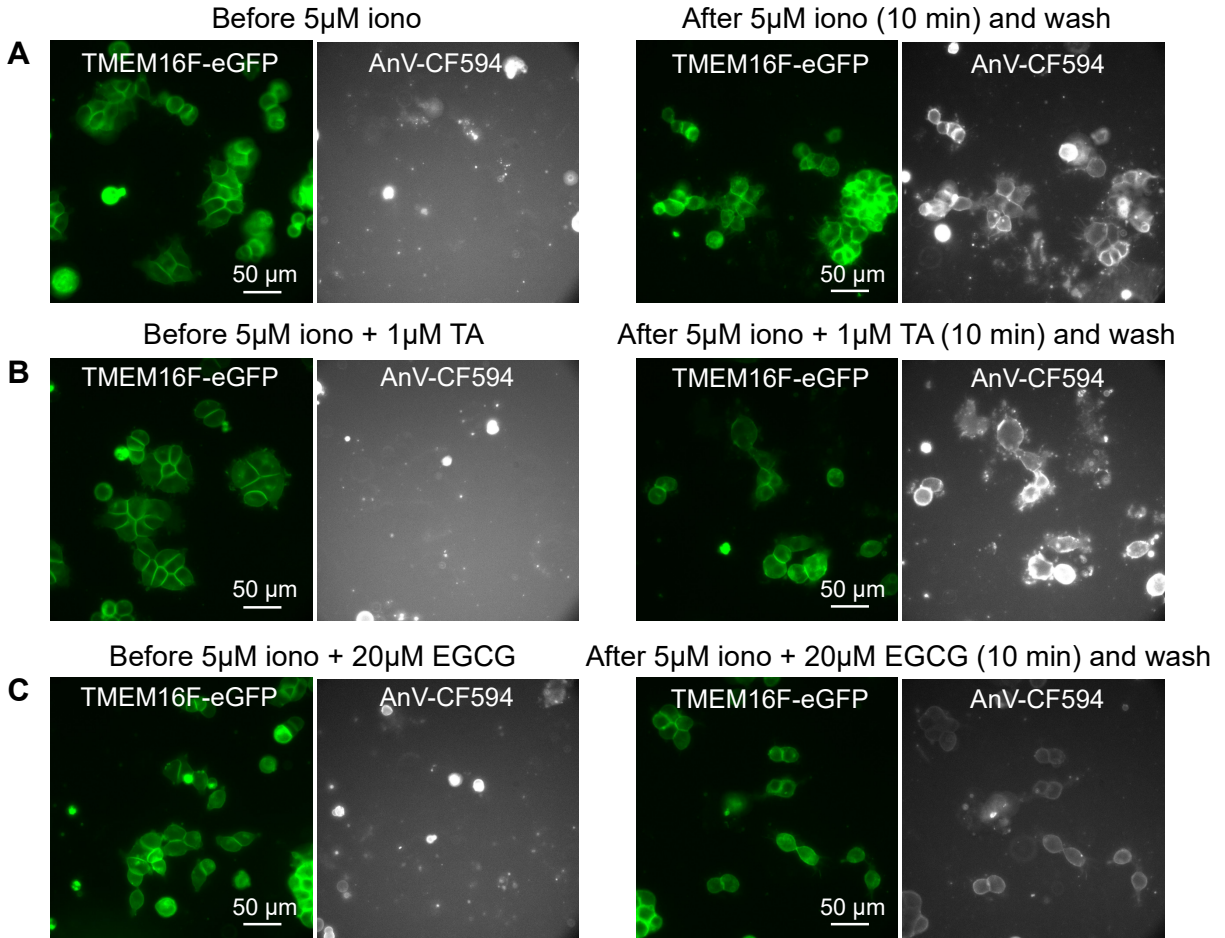


Figure S3. TA and EGCG do not prevent TMEM16F phospholipid scrambling. Left columns, representative images showing the AnV-CF594 staining of the HEK293 cells stably expressing mouse eGFP-tagged-TMEM16F (TMEM16F-eGFP) before treatment. The viable cells were AnV negative. The coverslips were subsequently transferred to new imaging chambers with either 5 μ M ionomycin (iono) alone (A), 5 μ M iono with 1 μ M TA (B), or 5 μ M iono with 20 μ M EGCG (C) to stimulate TMEM16F activation for 10 minutes. Right columns, after stimulation, the cells were washed rigorously with HBSS twice and then AnV-CF594 was reintroduced to stain PS-exposed cells. All images are representatives of at least three independent biological replicates.