



**Supplementary Figure.** MPTP inhibitor BkA (Bongkreic Acid) delays glutamate-induced mitochondrial membrane potential depolarization in YAC128 MSN.

(A) The average normalized F/F<sub>0</sub> traces for YAC (N=101) and YAC.BkA (N=108). 10 μM BkA was pre-incubated with YAC128 MSN for 30 min prior to TMRM<sup>+</sup> imaging session and maintained in the bath solution during imaging. YAC.BkA group show delayed glutamate-induced mitochondrial membrane potential depolarization when compared to control YAC group.

(B) The average t<sub>0.8</sub> time is shown for each cell group as mean ± SE (same n as above). Following application of 100 μM glutamate, the mitochondrial membrane potential in YAC128 MSN drops significantly faster in control group than in the group exposed to 10 μM BkA (\*\*, p < 0.01).