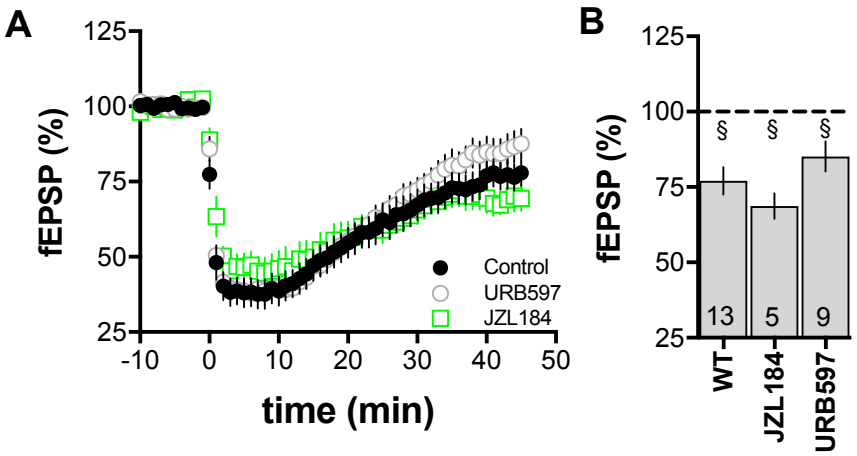
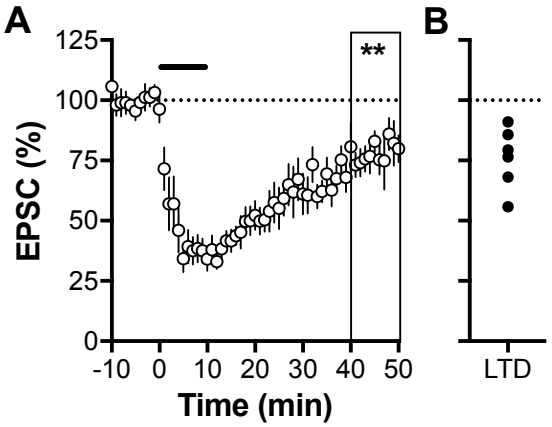


Supplementary Figure 1 Effect of Blockade of 2-AG and Anandamide degradation on high Carbachol LTD in slices from Wild type littermates A,B) Summary graph showing that high Carbachol-LTD is inot changed in slices incubated with JZL184 or URB597 B) Summary graph showing that high Carbachol-LTD is abolished in *fmr1-/y mice.* Error bars represent mean ± s.e.m. * § $p<0.05$, students t-test. The number in each bar indicates the number of experiments.



Supplementary Figure 2 Whole Cell patch clamp recordings of accumbens MSNs.
A) Averaged patch clamp recordings of AMPAR responses. 100μM Carbachol induced strong STD and LTD. B) The average LTD values of this dataset indicate that all cells recorded expressed LTD.

Patch clamp recordings: For whole cell patch-clamp experiments, neurons were visualized using an upright microscope (Olympus BX-51W) with infrared illumination. The intracellular solution contained in mM: 145 K^+ gluconate, 3 NaCl, 1 $MgCl_2$, 1 EGTA, 0.3 $CaCl_2$, 2 Na_2^+ATP, and 0.3 Na^+ GTP, 0.2 cAMP, buffered with 10 HEPES. The pH was adjusted to 7.2 and osmolarity to 290-300 mOsm. Electrode resistance was 4-6 MOhms.

A –2 mV hyperpolarizing pulse was applied before each evoked EPSC in order to evaluate the access resistance and those experiments in which this parameter changed >25% were rejected. Access resistance compensation was not used and acceptable access resistance was <30 MOhms. The potential reference of the amplifier was adjusted to zero prior to breaking into the cell. Cells were held at -70mV.