Supplemental Figure Legends

Figure 1S. Amino acid sequence alignment of *A. suum* ACR-16 and *C. elegans* ACR-16 nAChR subunits. The signal peptide (bright green box), acetylcholine binding loops A – F (pink boxes), cys loop (yellow box) and transmembrane regions TM1 - TM4 (turquoise boxes) are indicated. The vicinal cysteines (black-edged box) that characterize an alpha (α) subunit are present in the C binding loop. The blue-edged box between TM2 and TM3 represents the region where PNU120596 acts on α7.

Figure 2S. Alignment of ACR-16 sequences from *Ascaris suum*, *Toxocara canis*, *Loa loa*, *Haemonchus contortus*, *Ancylostoma ceylanicum* and *Caenorhabditis elegans*. Predicted signal peptide sequences are shaded in grey. Amino acids conserved between the different ACR-16 sequences are highlighted in blue. The Cys-loop, the four transmembrane regions (TM1 - TM4) and the primary agonist binding site are noted above the sequence.

Figure 3S. Effects of varied amounts of *A. suum acr-16* and *A. suum ric-3* on *Asu*-ACR-16 expression. **A:** Sample traces represented as inward currents produced in response to 100 μM acetylcholine. **B:** Bar chart (mean ± S.E.M) showing current sizes produced by 25 ng *A. suum acr-16* and 5 ng *A. suum ric*-3 (1062 ± 94.1, n = 6), 10 ng *A. suum acr-16* and 5 ng *A. suum ric*-3 (848.8 ± 155.4, n = 6), 10 ng *A. suum acr-16* and 10 ng *A. suum ric*-3 (727.3 ± 63.1, n = 6); 15 ng *A. suum acr-16* and 15 ng *A. suum ric*-3 (602.8 ± 106.8, n = 6) in response to 100 μM ach. * represents $p < 0.05$ (Tukey multiple comparison tests).

Figure 4S. Sample traces showing the effects of positive allosteric modulators of α7; **A:** 10 μM ivermectin**, B:** 3 μM genistein, and **C:** 3 μM PNU120596, on *Asu*-ACR-16 mediated acetylcholine responses.

Figure 5S. Calcium permeability of *Asu*-ACR-16 with 30 μM acetylcholine currents: Representative current-voltage (I-V) plot for oocytes expressing *Asu*-ACR-16, showing current change with voltage in 1 mM (black line) and 10 mM (red line) Ca^{2+}recording solutions. I-V relationship was plotted using a cubic polynomial equation and interpolated to measure the E_{rev}. The mean ± S.E for the positive shift of the I-V plot for 6 observations was 2.4 ± 2.1 mV, and this corresponded to a relative calcium permeability ratio of 0.4. Insert: magnified view of the I-V fitted line from -10 mV to 10 mV showing the E_{rev} in 1 mM and 10 mM Ca^{2+}.