

**Figure 1. Panel A:** number of genes differentially regulated after prolonged nicotine treatment (1.5 μM and 500 μM). **Panel B:** pie chart depicting the biological functions of differentially regulated genes. **Panel C:** transgenic *acr-19(ok967)* mutant worms carrying *acr-19* with its native 3´UTR rescue the nicotine withdrawal response, whereas the mutant worms carrying the *unc-54* 3´UTR show no effect. A transgene containing the *acr-19* gene with its 3´UTR harboring a mutation in the *miR-238* binding site partially rescues the nicotine withdrawal response. Bars show average ± SEM (n>5). **Panel D:** schema of the model showing the nicotine-mediated regulation of the miRNA and the AChRs.