



Figure 3- figure supplement 1: Electrophysiological characterisation of *hsElkin1*-iso1, *hsElkin1*-iso3 and *mmElkin1*.

Mechanically-evoked currents can be measured when *hsElkin1*-iso3 (**A**) or *mmElkin1* (**B**) are expressed in *N2a^{Piezo1-/-}* cells. Overall differences between *hsElkin1*-iso3 and *N2a^{Piezo1-/-}* cells as well as between *mmElkin1* and *N2a^{Piezo1-/-}* cells were tested with a two-way ANOVA and Bonferroni post-hoc tests (* $P < 0.05$, ** $P < 0.001$, *** $P < 0.0001$). Average data is depicted as mean \pm SEM. (**C**) Example current traces of *hsElkin1* iso3 (green) and *mmElkin1* (blue). Note that example traces have different y-axes. (**D**) GFP (black), *mmPiezo2* (orange), *hsElkin1* iso1 (magenta) and iso3 (green) were overexpressed in *N2a^{Piezo1-/-}* cells. Cells were clamped at -60mV and exposed to cell indentation. No currents were evoked in cells expressing GFP, all cells expressing *mmPiezo2* responded to indentation but mechanically-evoked currents could be measured in cells expressing *hsElkin1* iso1 or iso3. (**E**) Percentage of transfected *N2a^{Piezo1-/-}* cells that responded to membrane indentation. The numbers in bars indicate the number of cells tested.