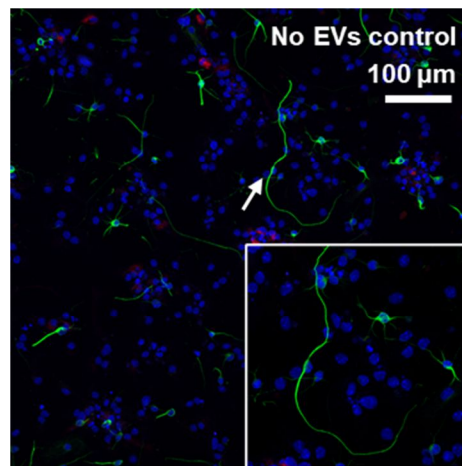


**Supplementary Figure S1:** EV membrane integrity analysis post sonication. Image J line profile snapshots across EV membrane from cryo-TEM images and corresponding line profiles of (a, b) non-sonicated and (c, d) sonicated samples



**Supplementary Figure S2:** Immunofluorescence images of no EV control showing differentiating neural cells in vitro.  $\beta$ III-Tubulin (green), GFAP (red) and DiD (yellow) with DAPI counterstain (blue).