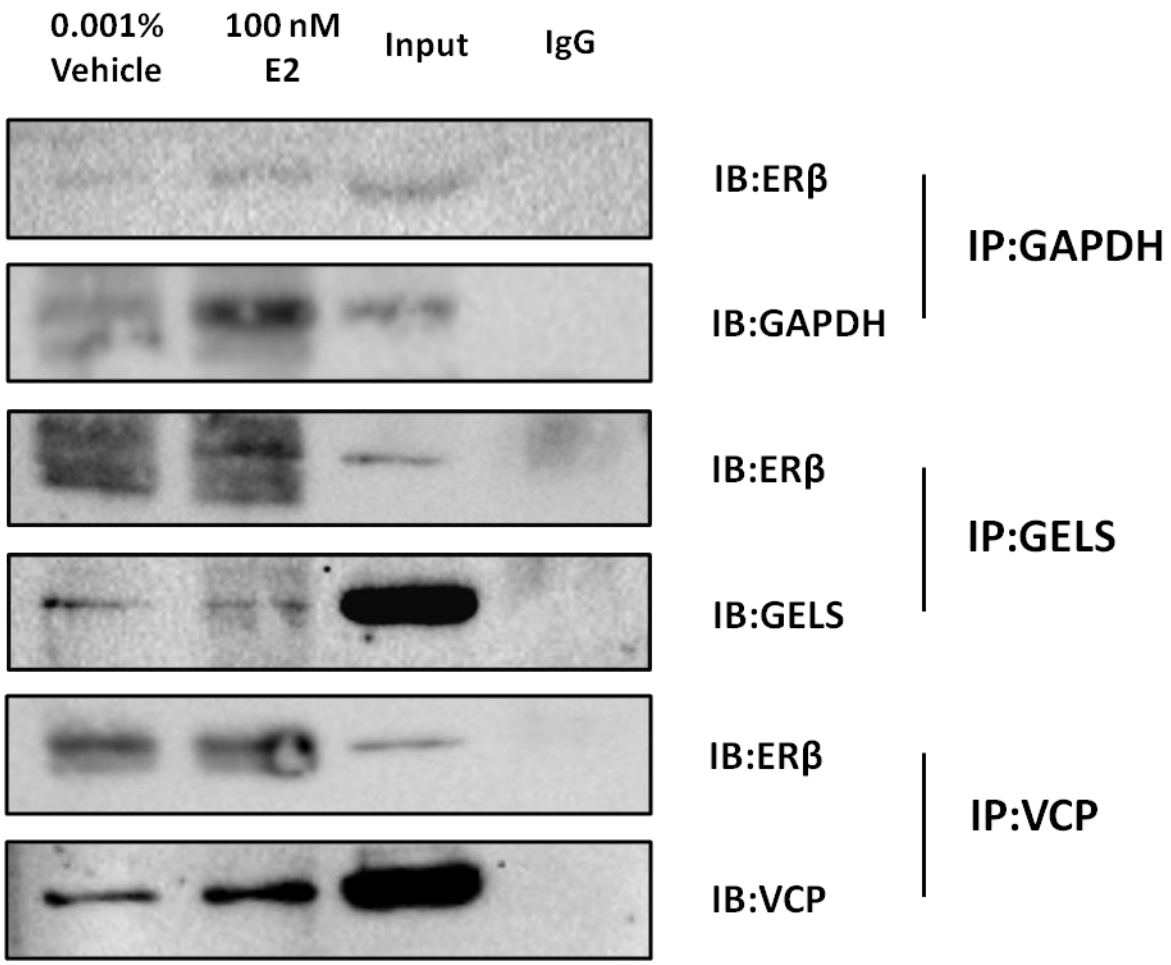
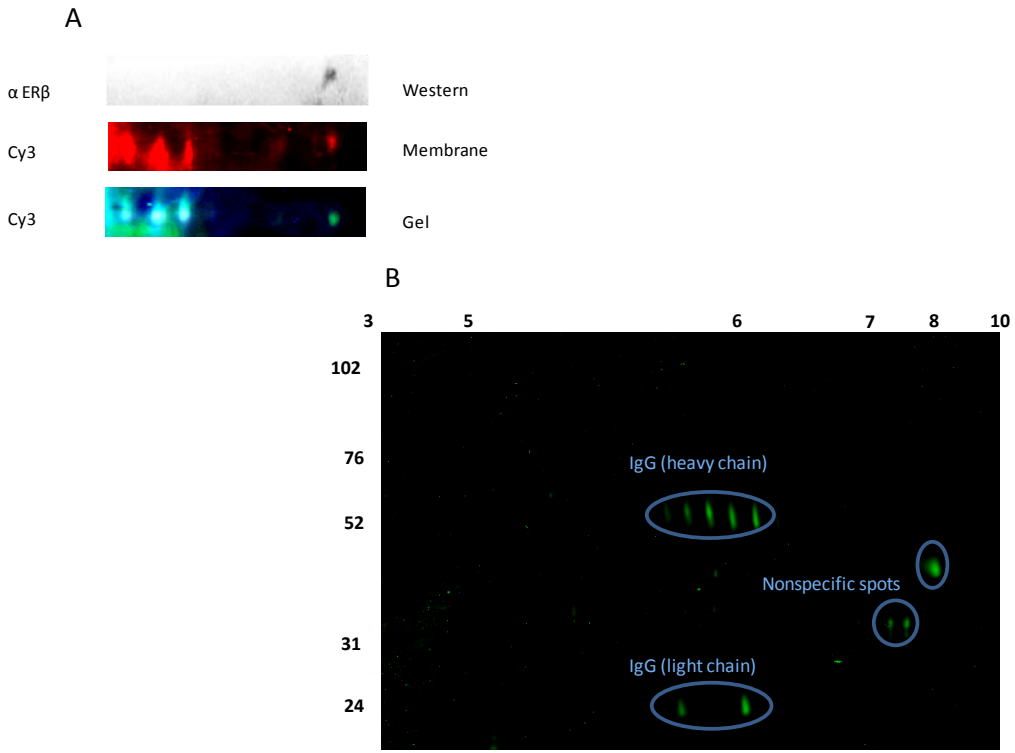
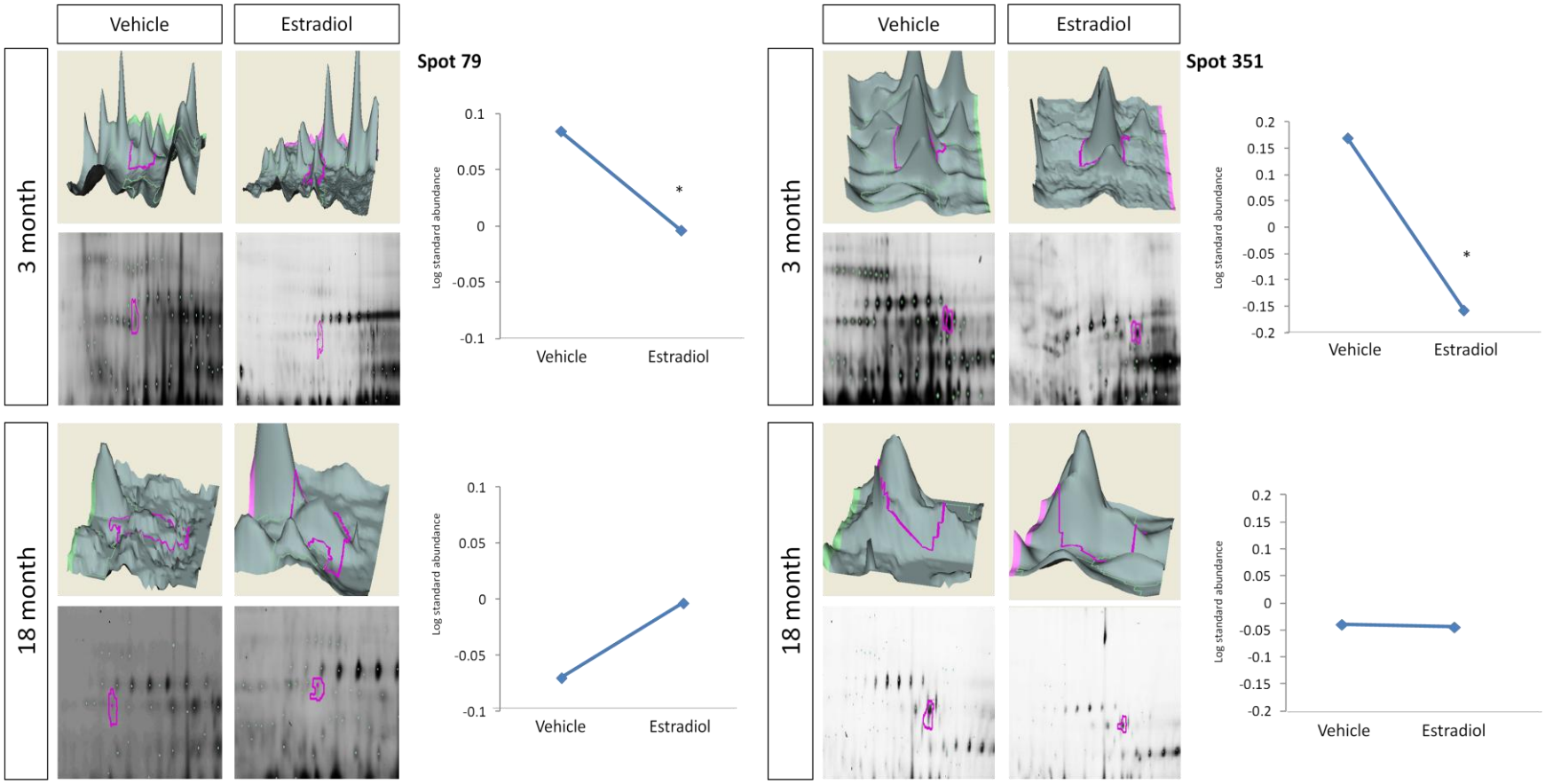


Supplemental Figure 1. Reverse co-immunoprecipitation for ERβ interaction partners. Representative immunoblot (IB) image of ERβ co-immunoprecipitated (IP) with glyceraldehyde-3-phosphate dehydrogenase (GAPDH), gelsolin (GELS) and valosin containing protein (VCP). Lane 1 = vehicle (0.001% EtOH). Lane 2 = 100 nM E2. Lane 3 = Neuronal-derived IVB whole cell lysate (equal parts V/E). Lane 4 = IgG control.



Supplemental Figure 2. Identification of ERβ by 2D-western blotting and non-specific protein spots bound to rabbit IgG antibody. (A) Pooled nuclear extracts from YV, YE, AV and AE immunoprecipitated for ERβ were labeled (Cy3) and resolved and visualized on a 2D gel. A portion of the gel narrowed for molecular weight and isoelectric range of ERβ (MW 55kDa, pI~8.8) was transferred onto a PVDF membrane and probed for ERβ. (B) Pooled nuclear extracts were incubated with rabbit IgG, co-immunoprecipitated, and subjected to 2D-DIGE. Non-specific spots were matched on experimental gels and excluded from further analysis.



Supplemental Figure 3. DeCyder topographical, gel image analysis and average log standard abundance of spots 79 and 351 (VCP) in response to E2 in young and aged animals. For each panel from top right to left: 3 month: YV representative topography, YE representative topography, YV representative gel image, YE representative gel image; 18 month: AV representative topography, AE representative topography, AV representative gel image, AE representative gel image. Graph depicts log transformed average abundance normalized to internal standard and matched to master gel. Average calculated from 3 independent experiments with a biological variance of 4 pooled animals/experiment. (N=3, BV=12) * denotes significance from vehicle ($p<0.05$).