

**Supplemental Fig. 1. IHC control images.** Representative photomicrographs of GR antiserum preadsorbed with recombinant GR protein (A), GFP antiserum applied to wild-type tissue (B), omission of antiserum for c-Fos (C), normal application of primary and secondary antisera for detection of c-Fos without tyramide amplification (D). White box indicates location of zoomed panels. Scale bar equals 20  $\mu\text{m}$ .

1 **Supplemental Table 1: Primer sequences for qPCR**

Gene	forward sequence	reverse sequence
<i>Lhβ</i>	CTGTCAACGCAACTCTGG	ACAGGAGGCAAAGCAGC
<i>Gnrhr</i>	GCCCCTTGCTGTACAAAGC	CCGTCTGCTAGGTAGATCATCC
<i>Gapdh</i>	TGCACCACCAACTGCTTAG	GGATGCAGGGATGATGTTC
<i>Gr</i>	CAAAGCCGTTTCACTGTCC	ACAATTTCACTGCCACC
<i>Kiss1</i>	CCCTTCCTCCCAGAATGATC	TCCCAGGCATTAACGAGTTC
<i>pDyn</i>	AGCAGTAAGCAGGTCATTCATCC	CACGCCATTCTGACTCACTTGT
<i>Tac2</i>	CGTGACATGCACGACTTC	CCAACAGGAGGACCTTAC
<i>Eraα</i>	GCGCAAGTGTTACGAAGTG	TTCGGCCTTCCAAGTCATC
<i>Oprκ</i>	AACCAAAGCATCTGCCAAAG	ATTTGTGGTGGGCTTAGTGG
<i>Tac3r</i>	TACACCATCGTTGGAATTAC	ATGTCACCACCACAATAATC

1 **Supplemental Table 2: Mean LH, pulse frequency, and pulse amplitude in OVX + E mice**

OVX	Mean LH (ng/mL)	Pulses/90 min	Amplitude (ng/mL)
0 ng E	4.46 ± 0.29 <sup>AB</sup>	3.83 ± 0.17 <sup>A</sup>	1.78 ± 0.27 <sup>A</sup>
20 ng E	4.44 ± 0.13 <sup>AB</sup>	4.25 ± 0.48 <sup>A</sup>	2.78 ± 0.72 <sup>AB</sup>
40 ng E	5.49 ± 0.33 <sup>A</sup>	5.00 ± 0.00 <sup>A</sup>	3.14 ± 0.28 <sup>B</sup>
100 ng E	3.31 ± 0.31 <sup>B</sup>	2.82 ± 0.20 <sup>B</sup>	2.69 ± 0.13 <sup>AB</sup>

2 Values are mean ± SEM.

3 Values with unique superscripts are significantly different (p<0.05).

