



Fig. S1 Immunohistochemical detection of RUNX2 in ovaries of control (*Cbfb*^{+/+}) and mutant (*Cbfb*^{gc/-} and *Cbfb*^{gc/-} * *Runx2*^{gc+/-}) mice collected at 12 h post-hCG (a, b & c) from immature animals and in the morning of estrus (d, e, & f) from 5 months old animals. Immunopositive nuclear staining for RUNX2 protein (green) was localized to granulosa cells of periovulatory follicles (arrowheads), newly forming corpora lutea (arrows), and corpora lutea from previous cycles (wavy arrows). The sections were counterstained with propidium iodide (red) for nuclear staining. The immunopositive staining for RUNX2 was reduced in periovulatory follicles and newly formed CL in *Cbfb*^{gc/-} * *Runx2*^{gc+/-} mice compared to *Cbfb*^{+/+} and *Cbfb*^{gc/-} mice. Scale bars, 250 μ m for all images.

Table 1. List of Primers for mRNA Quantification and Genotyping

| Gene | DNA sequence for primers (5'-3') |
|----------------------------------|--|
| <i>Areg</i> | AAAAGAATCCATGCACTGCC TGTCATCCTCGCTGTGAGTC |
| <i>Ccrl2</i> | TCCTTCCCGACTGATACCAC GACAAAACAGCGTCGTTTGA |
| <i>Edn2</i> | CTCCTGGCTTGACAAGGAAG GCTGTCTGTCCCGCAGTGRR |
| <i>Ereg</i> | TTCAGATGGAAGACGATCCC CGCAACGTATTCTTTGCTCA |
| <i>Gas1</i> | AGATGGTCGGGAACACTGAC TCCCTTCTCCAAGTCCATTG |
| <i>Hp</i> | GGCTATGTGGAGCACTTGGT TCACATTCGGGGAGTTTCTC |
| <i>Lhcgr</i> | CGCTTTCCAAGGGATGAATA CTGGAGGGCAGAGTTTTTTCAG |
| <i>Lipg</i> | TCTAAGGACCCAGAGCAGGA TGTACAGCTGATGAGCCAGG |
| <i>Prlr</i> | TTTTGCACATGAACCCTGAA ACCAGCAGGTGAATGTTTCC |
| <i>Ptgfr</i> | TGTTTCTTCTCGTGCAATG AGATCTGATTCCACGTTGCC |
| <i>Ptgs1</i> | CTTCTCCACGATCTGGCTTC GAGCTGCAGGAAATAGCCAC |
| <i>Saa3</i> | GTTGACAGCCAAAGATGGGT GATGACTTTAGCAGCCCAGG |
| <i>Sfrp4</i> | CTCAGGTATGTTGCCAGGGT CTCAGGTATGTTGCCAGGGT |
| <i>Sgk1</i> | AGGGCAGTTTTGGAAAGGTT CAGAACATTCCGCTCTGACA |
| <i>Wnt4</i> | CTGGAGAAGTGTGGCTGTGA GGACGTCCACAAAGGACTGT |
| <i>L19</i> | CCAAGAAGATTGACCGCCATA CAGCTTGTGGATGTGCTCCAT |
| <i>Cxcr4</i> | CAAGCAAGGATGTGACTTCGAGAG CCGAGGAAGGCATAGAGGATGG |
| <i>Runx1</i> | CCAGCAAGCTGAGGAGCGGCG CCGACAAACCTGAGGTCGTTG |
| <i>Runx2</i> | GTTATGAAAAACCAAGTAGCCAGGT GTAATCTGACTCTGTCCTTGTGGAT |
| <i>Cbfb</i> | CCTTTGAAGAGGCTCGAAGA CTGGTCGCCCAATGAGTTAT |
| <i>Runx2 flox (genotype)</i> | ACCAAATTAAGGGCCAGCTC TTGAAACCATCCACAGGTGA |
| <i>Cbfb flox (genotype)</i> | CCTCCTCATTCTAACAGGAATC GGTTAGGAGTCATTGTGATCAC |
| <i>Esr2 cre (genotype)</i> | CAGGTGCTGTTGGATGGTCTTC CTTAGTTACTCCGGCAGCTTGAAC AGGGGAAGTAAGGCTTGATGGTGA |

Table 2. List of Genes and Their Official Full Name

| Official Symbol | Official Full Name |
|------------------------|---|
| <i>Cyp19a1</i> | Cytochrome P450 family 19 subfamily A member 1 |
| <i>Runx1</i> | Runt-related transcription factor 1 |
| <i>Runx2</i> | Runt-related transcription factor 2 |
| <i>Runx3</i> | Runt-related transcription factor 3 |
| <i>Cbfb</i> | Core binding factor β subunit |
| <i>Lhcgr</i> | Luteinizing hormone/choriogonadotropin receptor |
| <i>Sfrp4</i> | Secreted frizzled-related protein 4 |
| <i>Esr2</i> | Estrogen receptor 2 |
| <i>Edn2</i> | Endothelin 2 |
| <i>Ptgs1</i> | Prostaglandin-endoperoxide synthase 1 |
| <i>Lipg</i> | Lipase G, endothelial type |
| <i>Saa3</i> | Serum amyloid A 3 |
| <i>Ptgfr</i> | Prostaglandin F receptor |
| <i>Ccr12</i> | Chemokine (C-C motif) receptorlike 2 |
| <i>Cxcr4</i> | C-X-C motif chemokine receptor 4 |
| <i>Areg</i> | Amphiregulin |
| <i>Sgk1</i> | Serum/glucocorticoid-regulated kinase 1 |
| <i>Ereg</i> | Epiregulin |
| <i>Cyp11a1</i> | Cytochrome P450 family 11 subfamily A member 1 |
| <i>Star</i> | Steroidogenic acute regulatory protein |
| <i>Hsd3b</i> | Hydroxy- Δ -5-steroid dehydrogenase, 3 β - and steroid Δ -isomerase cluster |
| <i>Parm1</i> | Prostate androgen-regulated mucinlike protein 1 |
| <i>Wnt4</i> | Wingless-type MMTV integration site family, member 4 |
| <i>Gas1</i> | Growth arrest specific 1 |
| <i>Hp</i> | Haptoglobin |
| <i>Prlr</i> | Prolactin receptor |