

Supplementary Table 1: Follicle size, time of surgery in relation to hCG treatment, preoperative serum hormone concentrations, menstrual cycle day at the time of surgery, menstrual cycle length, and age of the study population. All data are given as means \pm SEM.

	Preovulatory phase	Early ovulatory phase	Late ovulatory phase
Follicle size (mm)	15.9 \pm 0.7 range 14.0 – 17.0	17.1 \pm 0.8 range 15.0 – 19.0	17.2 \pm 0.8 range 15.0 – 20.0
Hours after rhCG		14.0 \pm 0.9 range 12.0 – 18.0	21.9 \pm 0.8 range 19.0 – 24.0
Progesterone (nmol/L)	0.4 \pm 0.04 range 0.3 – 0.5	1.2 \pm 0.22 range 0.5 – 1.9	2.1 \pm 0.3 range 1.5 – 3.0
Estradiol (nmol/L)	0.5 \pm 0.1 range 0.2 – 1.0	0.6 \pm 0.1 range 0.4 – 0.9	0.7 \pm 0.1 range 0.6 – 0.9
Cycle day of surgery	14.0 \pm 0.3 range 13 – 15	12.6 \pm 0.5 range 11 – 14	13 \pm 0.6 range 11 – 15
Cycle length (days)	29.0 \pm 0.6 range 28-35	27.2 \pm 0.5 range 26 – 28	29.4 \pm 0.9 range 28 – 32
Age (years)	35.4 \pm 1.2 range 31 – 38	33.8 \pm 1.4 range 30 – 38	37.4 \pm 1.4 range 36 – 38

All the patients recruited had a planned laparoscopic sterilization as a means of contraception and participated in the study voluntarily.

Supplementary Table 2: Antibodies used for immunohistochemical, Western blot, and ChIP analyses.

Target protein	Immunogen	Entrez -Gene ID	Host	Clonality	Isotype	Name of Antibody	Manufacturer, Catalog #
FOS	Synthetic peptide corresponding to the sequence of human c-FOS	2353	Rabbit	Monoclonal	IgG	c-Fos (9F6) Rabbit mAb	Cell Signaling, #2250
JUN	GST-c-JUN protein derived from the N-terminal sequence of human c-JUN	3725	Rabbit	Monoclonal	IgG	C-Jun (60A8) Rabbit mAb	Cell Signaling, #9165
JUNB	Synthetic peptide corresponding to residues surrounding Pro169 of human JUNB	3726	Rabbit	Monoclonal	IgG	JunB (C37F9) Rabbit mAb	Cell Signaling, #3753
JUND	Synthetic peptide corresponding to residues surrounding Pro250 of human JUND	3727	Rabbit	Monoclonal	IgG	JunD (D17G2) Rabbit mAb	Cell Signaling, #5000
PGR	Synthetic peptide corresponding to residues surrounding Tyr541 of human PR	5241	Rabbit	Monoclonal	IgG	PR A/B (DbQ2J) XP [®] Rabbit mAb	Cell Signaling, #8757
RNA polymerase II	Synthetic peptide YSPTSpPS corresponding to human RNA pol II	5430	Mouse	Monoclonal	IgG	RNA pol II mAb	Active Motif #39097
Rabbit Control IgG for IHC	No immunogen	-	Rabbit	Monoclonal	IgG	Rabbit (DA1E) mAb IgG XP [®] Isotype Control	Cell signaling, #3900
Rabbit Control IgG for ChIP	No immunogen	-	Rabbit	Polyclonal	IgG	Normal Rabbit IgG	Cell Signaling, #2729
Secondary antibodies		Conjugants		Host	Isotype	Application	Manufacturer, Catalog #
Goat anti-rabbit antibody		HRP-labeled polymer		Goat	IgG	Immunohistochemistry	Dako, K4065
Goat anti-rabbit antibody		HRP		Goat	IgG	Western blotting	Santa Cruz Biotechnology, #sc-2030

Supplementary Table 3: Primer sequences (Forward and Reverse) used for real-time PCR analyses and ChIP assays

Genes	Accession No.	Forward primers	Reverse primers
For Real-time PCR			
<i>FOS</i>	NM_005252.3	AGGAGAATCCGAAGGGAAAG	CTTCTCCTCCAGCAGGTTGG
<i>JUN</i>	NM_002228.3	TGACTGCAAAGATGGAAACG	GGGTCATGCTCTGTTTCAGG
<i>JUNB</i>	NM_002229.2	TTAACAGGGAGGGGAAGAGG	CACAGTACGGTGCAGAGAGG
<i>JUND</i>	NM_005354.5	AGGCCCTGGAGGATTTACAC	CTCAGGTTTCGCGTAGACAGG
<i>PTGES</i>	NM_004878.4	GCTGATCACACCCACAGTTG	CCAGGAAAAGGAAGGGGTAG
<i>SLCO2A1</i>	NM_005630.2	TCAACATGAGCTCTGCAACC	ATCAACAAGAAGTGCACCCC
<i>ABCC4</i>	NM_005845.4	GGCTTGTGCTCTGAAAAGG	CTGAGAGGATCGTCCAGGAG
<i>RNA18S5</i>	NR_046235.1	GTAACCCGTTGAACCCATT	CCATCCAATCGGTAGTAGGG
For ChIP assay			
<i>FOS</i>		CACCCCCTTCAAATGTCTTC	GCCCTAATTCAGTGCAAAGC
<i>PTGES</i>		GGCTAAAGGGATCAGCAGTG	TCTGCACGTGGTGATTATCG
<i>SLCO2A1 (1)</i>		ACCTCCTTCCCTCCCTCTC	CCTCTTTTCCTCGGGTGTC
<i>SLCO2A1 (2)</i>		CATTCCAGCACTGAGAAGGAG	GTCTCTGGACCTGAGCCAAG
<i>ABCC4 (1)</i>		CGACAGCATTTCATCCATCTC	AGGCTCTTCAACCTGTGAGC
<i>ABCC4 (2)</i>		CCTCCATGACAATCATTTGG	CTGTTCGTCAAGCCCTAAAGC

Supplementary Table 4. Relative abundance of FOS, JUN, JUNB, and JUND staining in granulosa and theca cells of human periovulatory follicles

		Pre	EO	Late
FOS	GC	-	+	+++
	Th	-	+	+++
JUN	GC	-	+	+
	Th	-	+	+
JUNB	GC	-	+++	+++
	Th	-	+++	+++
JUND	GC	-	+++	+++
	Th	-	+++	+++
IgG Control	GC	N/A	N/A	-
	Th	N/A	N/A	-

Staining intensity: -, no staining detected; +, weak; ++, moderate; + + +, Strong. N/A, Not Available. GC, granulosa cells; Th, theca cells.

A. Sequence of human *FOS* gene

-1517 AGCAGGATCTCCTGGCTCCDGGGCGGGGGCTGGAGGCAGGTCTGCGGTCDGCTCCDGGDGGCCDGAACATCCGCGCGCGDCTCATCTGCT

-1417 CGCCCTCTCCAGGTGCCACCGCGGGCCDGAACCCDGGGCGCGAAAGTGGAGAAAGGAAACCGGGCTGTGCGGGACATGCGTCTTCGGCCCTG

-1317 GAGGTGCCAGCGCGCTGGGCTGAGCCDGGCAGCGTACCDCGGTGTCTAOCAGCAGGGCAAGGATTGGGGGCGTGCCACACTCTGGAGCAC

-1217 TTGCTCCCAAGCC**CCGTGT**CCAGGACGTGGAGCCGCTCCTGGGTCCAGCAGTGCAGGTATCCGCCAGGCGCACTGGACACTGTCTTCCAG
PRA & PRB⁻¹¹⁹⁶

-1117 CCCCCTCTCCACCCTCCAAAGTCCGCGCTGGAAAAACAACCCTGCGGGCTCCCGTAAAGCACAGCTTCTGGCGGGAACGAACCAACDCTCAAGCGAGA

-1017 TTTGAGTTCCCGCAAGAAAGCACACCCCGCTTGTTCATCCGAACTGACCAACCCGCGCACATAACCAACCTCGCACTCCCTAACCCCTGGGGCCAGCT
primer - F

-917 CAGAACCGGCGAG**CACCCCTTCAAATGCTTC**CGACGTAAGTTTGC**CAGTGT**TATCTGCTGGTGTCTCAGGGATTTGACAGTTTCTTAATATTC
PRA & PRB⁻⁸⁶¹

-817 CCACACATGGCCGAGAAAAATAAATAAATAAATGCGCTGTCTTCTTAAAAATAAATAAATAAAGTACCCAGTATCGTAAAGTAGGTTATCGTATTCT

-717 CTTATTTGGATCTCCACTTCTGCTTCCAAAOCGAGG**ACAGT**CTAGTATTGCTCGAGCCGAGGGCTGGAGGTAGGGGATGAAGTCTGCTTCCA
primer - R **PRA & PRB**⁻⁶⁷²

-617 **CGTTTGCACTGAATDAGGCT**TAGAATTGGGGATGGGGTAGGGGCGCATTCCTTCGGGAGCCGAGGCTAAAGTCTCGGGTCTGTACTCGATGCGGT

-517 TTCTCTATCTCTGAGCCTCAGAACTGTCTTCAAGTTCCTGACAAAGGTAAGGCGCTCTCTGCCCATCCDCCCGACCTCGG**AAACAAG**TCCGC
PRA & PRB⁻⁴²⁴

-417 ATTGAACCAGTGC**GAATGT**CTCTCTCATTTCTGCGCCGTTCCCGCTCCCTCCDCCAGCCDGGGCGCCCGCTCCDCCCGCACTGCACCT**GGTGT**
PRA & PRB⁻³⁹⁷ **PRA & PRB**⁻³¹⁸

-317 GGCTGCAGCCDGGAGCAAGTCCCGTCAATCCCTCCDCCCTTACACAGGATGTCCATATTAGGACATCTGCGTCAAGAGTTTCCAGGCCCTTCCCTGT

-217 AGCCCTGGGGGAGCCATCCDGAACCCCTCATCTTGGGGGCCACGAGACCTCTGAGACAGAACTGCGAAATGCTCAAGAGATTAGGACACGGGCC

-117 AAGCGGGGGCAAGGAGCTGCGAGCGCTGGGAOCGAGCCGGGGCCGCAAGAGCCAGGCCCGCGGCCACDCTCTGGCGCCACCGTGGTTGAGC

-17 CCGTGACGTTTACACTCATTTCATAAAA**CTTGT**ATAAAAAGCAGTGGCTGCGGCGCTCGTACTCCAACCGCATCTGCAAGAGCACTGAGAAACCAA
→TSS **PRA & PRB**⁺¹²

+84 GACTGAGCCCGCCDGGCGCAGCGAAACGAGCAAGTGAOCGTGCTCCTACDCACTGTCTCCACAGCGCCACCTGTCTCCGCCCTCGGCCCTCGC

+184 CCGGCTTTGCTAACDCCAC**ATG**ATGTTCTCGGGCTCAAOCAGACTACGAGCGTTCATCCTCCGCTGCAAGAGCGTCCCGCGCGGGATAGC

B. Sequence of human *PTGES* gene

-1385 TGA**TGACCC**LAGGCTCAGCGCCCTGATGGAGGCAGATGGGGCCTTTTAAACCCCTGCTGGGGAGCGGCTGCTGGGGAGGGGGCAACTCACCTGCGGTGG
c-Fos⁻¹¹¹²

-1285 GGGGTGAAAAGAGCGGTTTTAAAGGGACCATCCAAGCCAAGAAAAGCAAAGAGCAAAGAGAAAGAGCTCAGCAGCTCTCCCAAGCCCTCCACCTTGAGCTT

-1185 GGGAAATGGAGGCGGTTGGGAAAAGTTGGGGAGGAAAAGTGTGAGGTTGATGTTGTGAGGGGAGATGTACGGAAGGGCGGTGGGGTAAGGGGAGGGAG

-1085 TGGGGATGGGGAGGGATGGGTTATGAAAAGGAGCGCTGGGGGTTGTGAGAAAGGGTGGATATGGAAGGGAGGGGTAGGGGTGGGGTGGTGGGGAG

-985 TGAGTGTGGGGAGGGGTGGGTATGAAAAGGAGGGGCAAGGGTGGGGTGGTGTGGGGGAAAGATTGGGACATGGAAGGGAGGGGTGGGGTGGGTGGGT

-885 GTTGGGGATGTGTGTGGGGAGGATTGGGTTATGGAAGGAAAGACAGGGTGGGGTGGGGTGGGTGAGGGTGTGTGGGAGTGGTGGGTATGGAAGGGAGGC

-785 TTGGGTTGGGCTGGGTTGGGGTGGGTGTGGGGAGTGGTGGGTATGGAAGGGAGGTTGGGGTGGGAGACAGATGGGCATAGAAATGAGGTGTAAGTGTG

-685 GGAGGG**GGCTAAAGGGATCAGCAGTGT****GGGGTCA**AGCCCTCTGGCCCTTATCAGGGAGTCTGGGGCT**TGGGTCA**CCGGGATGGGCTTGGCATGGCTG
c-Fos⁻⁶⁵⁹ c-Fos⁻⁶¹⁰

-585 GCTTTGTTTCTAAAGAGGACCTCTGGCTCTGCCGTGGAGGGCAAGGGGTGTGGACAGCCAGGCAAGTGGACACAGTGGGCAAGTGGCATGGCTCTTCTTC

-485 CCCAGTGGCTTGGACAGTCCCTGGCTACTGCCCAAGAGCTGGAAGACCCAGGTGCGGGGAGAGAAAGAGAGGGGCAAGTACCAGGATGGGGGGCCAT

-385 GGCCTGGTCTCATGCCACCACCTAC**CTGACCT**CCGGAGGTGGGAGGAGGCA**CGATAATCAACAGTGCAG**AGGTCCTGCCAGGTGCCAGCCTC
c-Fos⁻³⁵⁰ primer - R

-285 ATCATTCCTAGAAAGGCAAGCACCACCACATGCTCCCAACTGTAGATAAGGAAACAAGCTTTGAAAACAATTTGAAAAGTGTGAGGATTGCTGGAAG

-185 GAGGGCTCCAGAGCCAGGGACTGGGTCCGGGACACCCGGAGACTCTCTGCTTCTGGAGCTCCGGCAACTGCTTGTCTTCTCTTCACAGGAGAAAGGGG

-85 CCCTGCTGCGCTGCCGTGGGGCGGGGCGTGGGGGTGCTGGCTGCAAGAAAGCTCTCCCTCCCACTTGTGCTTCCCTGCAGCTGCTCCTCTGTGG
|→TSS

+15 AGCTGATCACACCCACAGTTGAGTGCCTGCCAGAG**ATG**CCTGCCACAGCCTGGTGAAGAGCAAGCCCGGCCCTCCCGCCCTTCCTG

C. Sequence of human *SLCO2A1* gene

-1434 GGCTGAATTCA GGGTCCAGCTCCACEACTT GCTAGCTGTGTGGCTTTCAGACAGCTTCTTAGCCGACTGCTCTAGCATCCTTGTGGAGTCCAGAC

-1334 TCCATCAGTACCTATACCTGTAGGGCTAACGTTGGGGCTTCATGAAATCATGCATGTGGGTGCTCAGCAGAGGGCCTGGTATGCCA GCA CACCCAA GT

-1234 GCTCCATGCTGGTACCTGTCTTGTGTGCCATGTTCTCCCA GTGGACAGATGGGACCTGGAATTCATGCCTCCTCTGGGGCTGGGGCTGGGGCTGCTACA

-1134 GTGCTGTGGAAA **CTGTGCAG** ATGTACCTGCTCTGTGGCTGAGTGAAGAGGCCAGAGGCTGCCACTGTTCAACATCTTTGGAATGCTGCCGTGCCA
c-Fos⁻¹¹¹²

-1034 GGGAACTTGGGTGACAGGTGGATAGAA GCCCCCAA GCCCAGGCCAGGCCA GACCAGGCCAGAAA GGTATCAGTCTTGGGTAGAATAAGAA GCTATGT

-934 GGTCTATCTATCCTGTGGCCTTTGTCTTAGCCAAA GCTCTGAT **TTGADGGD** TCTTTTCTGGGTTTGGGGTGGGCTTGAGAGAGTTCCCTCTGCA
c-Fos⁻⁸⁷⁸

-834 CGGGACTACAGAA GTGAGGGAGCTGGA AAAATGCCTCCAGAGCTGGATTCTCACTGCA GCTGCTTTTGAAGA ACCTTCTATCCTTCCCTTGAGAAGC

-734 CTCCTGTCTCTCTCTGGGCTTGAATCCTGTTAGTAGAAAACTTTGGGAAAAAATAAACCCACTATTCATTCAGCACTGAGAA **GAGGTCA** TGGG
primer - F
c-Fos⁻⁶³⁹

-634 GTGCTCTGTTTGTCCACACCCCCCA CCCCCTCTACCCCTCCCCCA GCACCCAGGCCAGACCCAGCCAT **CTGACAT** **TGACAGT** CCTGCAGTT
primer - R
c-Fos⁻⁵⁴⁵

-534 TAC **CTTGGTCAAGTCCAGAGC** TCCGGGCCAGCCCCACCTTTCACTTGTTCACCA GCCCCTCTCCAGCGCAAAGAGCAGTTTAAATATAAATCA

-434 GTCCTCAACACAAA CAGAGCTGCA GCGAGTCTCAGAGCCATCACC GGA ACTGAGGGCCAGT TTTCTGGAGTGCAAACAAGCAGAGACTGGCTCCGTA

-334 AATCTCCCAA GAACGTCCGGAGGGGTGCTGGGGTCCCCTCCACCCCGGCTCAGGTTGGCCCTCCAGCGCCGCTCGGGCACCCTCATATCCCA GC

-234 CTTCCTGCCCCCA GDCCTGCCAACCTCTTCTCCATCCCTCCACTCACCCACCTTGCTTCGCCACCTCTCTTCGCCAGTCCCA GGAACCTCCAC

-134 CCCCTTGC AACCTCCTGCCCCCGCACAGCCCTCACCTCCCTCCCGGGCCCGCCACTCCTTCCCTCCCTCTCCGCTCCCGCA GCGGGATCTTCTC
c-Fos⁻²³

-34 GGG **CAAGTCAA** TCTCTCGGGTCTGCTGGGGCTC **CA** CACTGTCTGAGGGGGGCGCGGCGGCGGCGGGCGGGCGGGGCTCGTAGGCTT **TTGACACC**
c-Fos⁺² → TSS **c-Fos⁺⁶⁵**

+66 CGAGGAAAA GAGGGAGGAGGGAGAGCGGTTTCATCATCGGCGCGGCCACTTATAAAAACTTCTAGGCGCGCACTGCTGGCTCAGTCTCCGCTCCGCG

+166 AATCTCCTCCGGCACTGCCGCCGGGTGCTCTCACCCGCCGCTCCAGCCGAGGCGCCCGACCCCGGCCACTCCGCGCCGGCCAGCCGC

+266 CCGCAGCC **ATG** GGGCTCCTGCCAAGCTCGGGGCTCCAGGGCA GCGACACTCTACTAGCCGAGCCGGCCGCTGTGCCGCTCGGTCTTCGGCAACAT

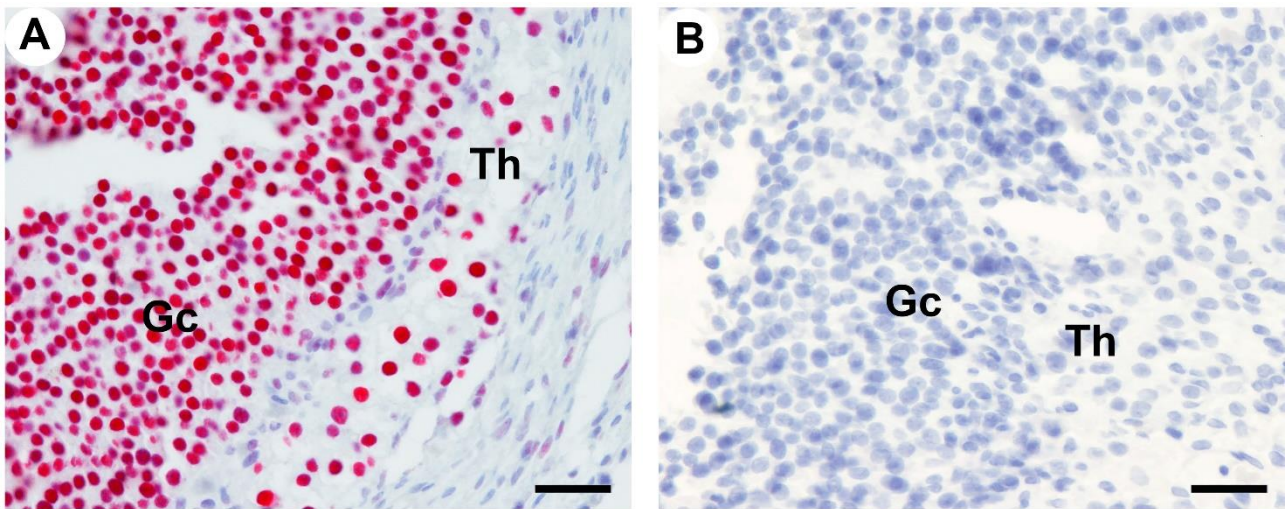
+366 TAAG

D. Sequence of human *ABCC4* gene

-1534 CAACCAGCATATTCTGGGCACCTTCTCATGCACACTGGCCATCCACCAGGGAGACAGGCCATGCTTAGACATAGGCTTATTGCAAATCATGTTTTATCCTT
 -1434 TCTTGGCTCTAAGACTGGACAAGTTCTGCCTTTCAGCTTCACTTCTCATCTATAAAGTAAAGGATAACCTTGAATGGGGCACTGATAGAATTAAGTGTG
 -1334 AGATAATTGGTCGGGCGTGGTGTACATGCCTGTAATCCTAGCACCTTTGGGAGGCCACGGTGGGAGGATCACTTGAGCCTAAGGATTGAGACCAACGCTG
 -1234 GGCAACAAAGTGAGAAATATCAAGGAACAATAAAATGATCTTATTACAAAAGAAAACCAAATTTCTCAACATGCATGAAATATGAGAAAATAAACCTCC
 2nd primer - F
 -1134 **ATGACAAATCATTGG**CTTCAAAAATTATCAGTATTTGAACTTGGAGCCTTTGATTTTGTATTTTGCATCTCTACAAAAATTACAAAATATGAGCCGGGTG
 c-Fos⁻¹¹²⁷
 -1034 TGGTGGGGGTGCCTGTAGTCCTAGCTACTTAAACTGAGTTGGGAGGATTGCTTGAACCTGGGAGGTCGAGGGTGAATGAGCCATAAT**GTGACACT**
 c-Fos⁻⁹³⁶
 -934 TGTGTGAGACTGCCACACACACACACACACACACTAGTGAAGGCTACGCACCTCAGAAATGCACATGAACATCACTGGTATTCTGGAAACCCACGCTGTC
 2nd primer - R
 -834 GTTTGCCACTGTATCTGTAG**GGCTTAGGGTTGACGACAG**AAATCATCAGGCAGTCTCTCTTTCTTATATTCCTTTCCCAATCTAAGGGGGCAGC
 c-Fos⁻⁷⁹⁹
 -734 AAAAACTCAGAGGTCCACCGTAGCATGCAACATGTGAGATGCTAAAAGCCCGCCCATCGA**CGACAGCATTCATCCATCTC**CGAATTCAT**GGGTG**
 c-Fos⁻⁶³²
 -634 **AT**ACTCTCGAGTTACCCGGCTTTCTTGGGTCTTGCAGCTCTACAAGGATAATCTGTGGCTAAACTTTGCTGTCGTC**AAGGTCAA**ATGTTT**GGTCCACA**
 1st primer - R
 c-Fos⁻⁵⁴⁸
 -534 **GGTTGAAGAGCT**TCCATGGCACCCTCGTTTGGTCCCTGAGAAAGGAAAGGCGCCAGGGGGGGGGCTGCTAGAGCACGAGGCACTGTCTCCAGTCTTC
 -434 CCAAAACCCGTAGCCGAGGGGGGCTTTCTGCGGCAGAGGGGGGGGCACAGCCGACCGCTCCCTGCTCCACCTCTGTGTGGGGCCCTAGACTCGGATAGTG
 -334 AATTTGGAAAATTTCACTCGGGTTCGTGCACGTTGGGCACTCCGGACCCGGCTCCTTGGCGGGCTCTGCTACCTCTCCATCCAGCGGCACAGGCG
 -234 GCCCTCGCTCAACCCCTGGGCGTAGCTCTGGCTCCCTTTGGGCTGCGCAAGCTTGGCTCCTCCCGCCGGTCTCCTCCCG**GGGTCA**CCGTCGGTCC
 c-Fos⁻¹⁴⁵
 -134 CGGCCGGCTCGCACGCGGTGGCAGCTCCCGGCTCCAGGCGCGCGCGGTAAGCGCGGCCCGGAGGCGGGGCTGAGAGGCGGGGACGGGGGCTG
 -34 CCGCCGGCGCCCGCTCCCGAAAGCGCTGCTT**CC**CAGGCTCCAGCCGAGCGGACAGGCGTGGGCGCGGAGCCCAGCATCCCTGCTT**GAGGTCCAGGA**
 → TSS
 +66 GCGGAGCCCGCGCCACCCGCGCTGATCAAGCGGACCCCGGCCCGGCCCGCCCGCCGCAAG**ATG**CTGCCGTGTACCAAGGAGGTGAAGCCCAACC

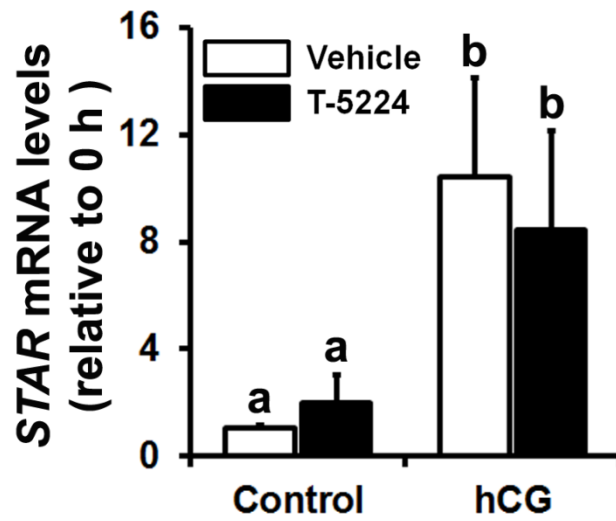
Supplementary Fig. 1: Transcription factor binding motifs in nucleotide sequences of promoter regions for human *FOS*, *PTGES*, *SLCO2A1*, and *ABCC4*.

Promoter sequences of human *FOS* (A), *PTGES* (B), *SLCO2A1* (C), and *ABCC4* (D) were analyzed using a genomic library. Nucleotide sequences are numbered from TSS at +1. The sequences of the oligonucleotide primers are colored in red. Putative PRA, PRB, or c-FOS transcription factor binding sites (highlighted in black boxes) are predicted by TFSEARCH.



Supplemental Fig. 2: Immunohistochemical analyses of human periovulatory follicles with the antibody for JUND and rabbit IgG as a negative control.

Paraffin-embedded sections of dominant follicles collected during the late ovulatory period were subjected to immunohistochemical analyses by incubating with the antibody for JUND (A) and concentration matching normal rabbit IgG (B) as a negative control. The red/pink staining represents immunopositive staining for JUND. The section was lightly stained with hematoxylin (blue) for nuclear staining. Gc, granulosa cells; Tc, theca cells. Scale bar, 100 μ M for all the images.



Supplemental Fig. 3: Effect of FOS inhibitor on the expression of mRNA for *STAR* in hGLC.

Primary hGLC were treated with or without T-5224 (FOS inhibitor, 20 μ M) in the absence or presence of hCG (1 IU/ml). The levels of mRNA for *STAR* at 12 h were measured by qPCR. The levels of transcripts were normalized to those of *RNA18S5* mRNA in each sample (n = 3 independent experiments). Bars with no common superscripts in each time point are significantly different ($p < 0.05$).