

Fig. S1. A. Relative quantification of *Ddit4* mRNA expressed by WT-, *Bmp15*^{-/-}, and DM- cumulus cells by microarray (left graph), and real-time RT-PCR analysis of changes of *Ddit4* mRNA in cumulus cells of normal WT- COCs, OOXs, and OOX co-cultured with WT- fully grown oocytes 20 h after incubation in vitro (right panel); B. Expression of DDIT4L protein in WT- and DM- ovaries as revealed by IHC; C. IHC staining of DDIT4 protein expression in normal WT- ovary.

Scale bars indicate 100 μm.

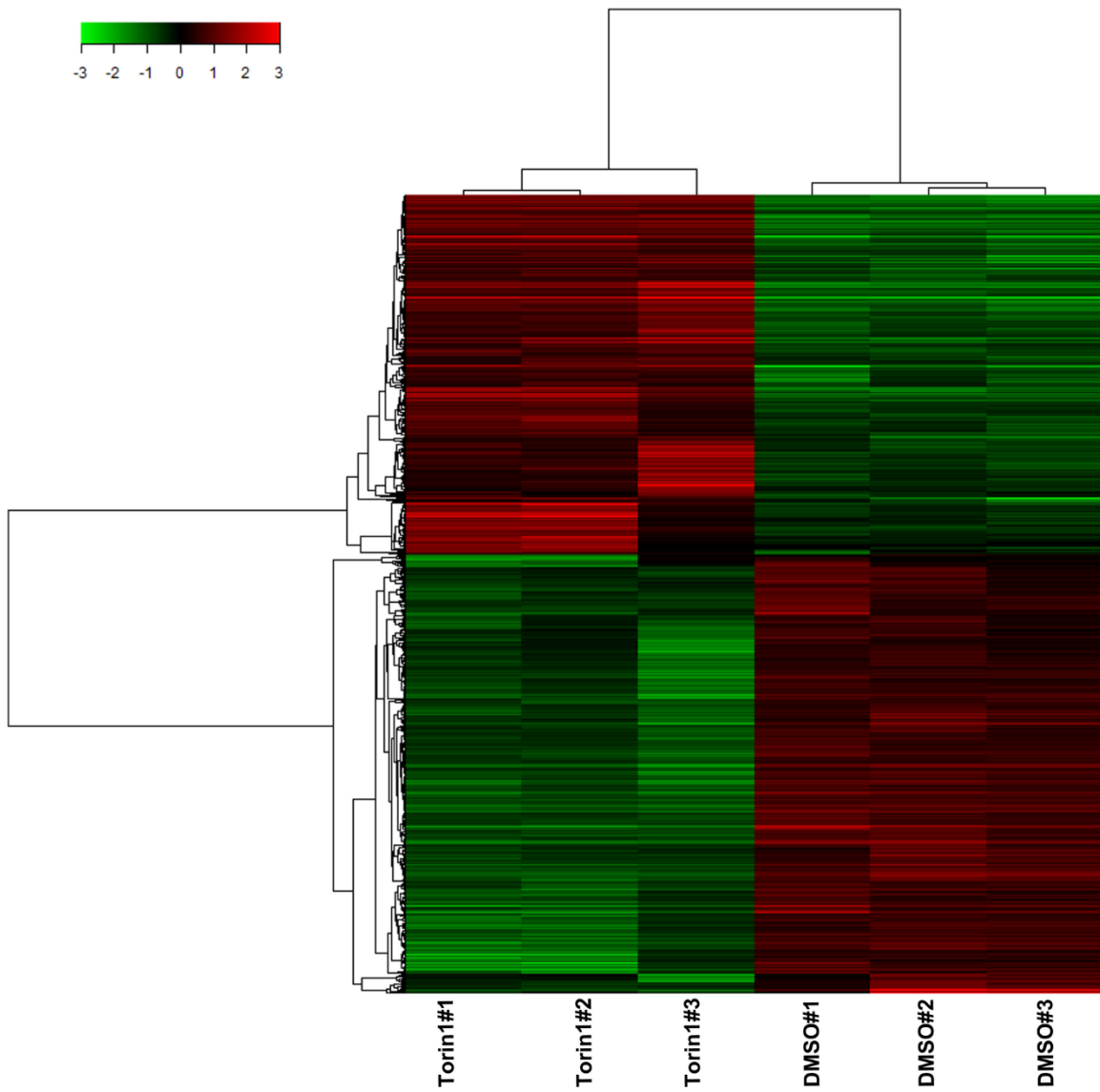


Fig. S2. Unsupervised hierarchical clustering analysis of the transcripts that were changed in COCs after Torin1 treatment as revealed by microarray analysis.

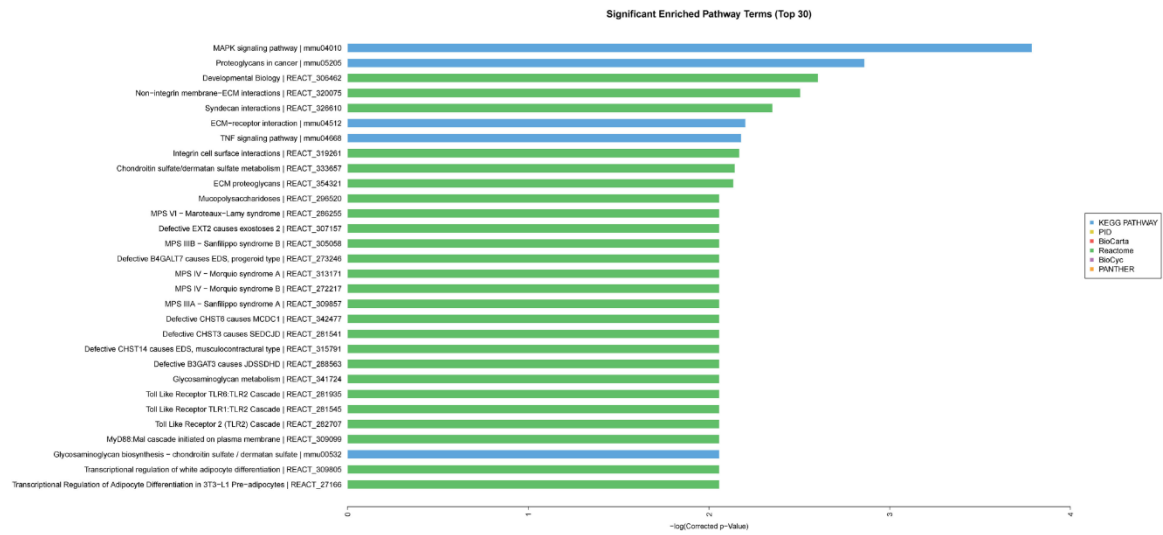


Fig. S3. Pathways that were associated with significantly upregulated transcripts.

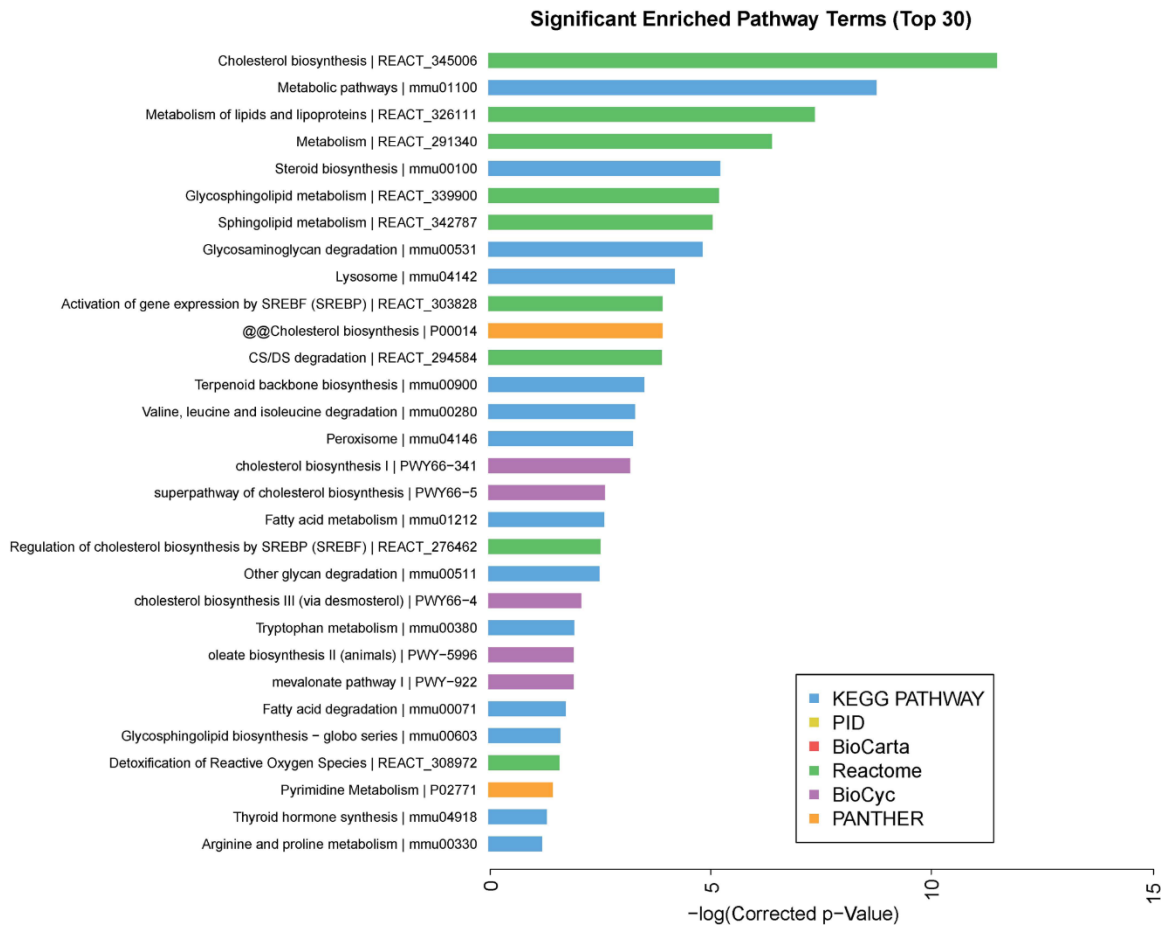


Fig. S4. Pathways that were associated significantly with the downregulated transcripts

Table S1. Primers used for real-time PCR

Gene Symbol	Forward Primer 5' to 3'	Reverse Primer 5' to 3'
<i>Alcam</i>	CCTTGGATGGTACACTGTCAACTC	TAGAAGATCGGAATGCAATAAATACTG
<i>Aldoc</i>	GAACAAAAGGAGATGTGGGAACTG	AGCAGGAGAAGCAGCCTTTGG
<i>Ar</i>	GCTGTCACTACGGAGCTCTCACT	CAATCGTTTCTGCTGGCACAT
<i>Areg</i>	TCCAAGATTGCAGTAGTAGCTGTCA	TATCGTTTCCAAAGGTGCACTGT
<i>Btc</i>	AACTGCACAGGTACCACCCCTAGA	ACAGATGCAGGAGGGAGTTTGC
<i>Cyp51</i>	GGCAAGACCTTCACTTACCTTCTG	GACCGTAGACTTCTTCTGCATTTCAG
<i>Dhcr24</i>	TCGGAAAGTACAAGAAGACCCATAA	ACCAAGGGCTCCACTCGAA
<i>Ebp</i>	CAACAGCCCTTCCGCTTTG	CCCATGCTGGAGTCCTTCGT
<i>Egfr</i>	GTGGAGGGACATCGTCCAAA	ATTGGGACAGCTTGGATCACAT
<i>Ereg</i>	CCATCATGCATCCCAGGAGAA	TAGCCGTCCATGTCAGAACTACACT
<i>Fdps</i>	TGTGTAGAACTGCTCCAGGCTTT	AAGCCTATGCCTGGCTTCTGA
<i>Fgf5</i>	GGGATTGTAGGAATACGAGGAGTTT	CCCTGAACTTACAGTCATCCGTAAA
<i>Fshr</i>	TCATTGCTCTAACAGGGTCTTCCT	TGGTGAGCACAAATCTCAGTTCA
<i>Gpr83</i>	GTCTCAGCACTGACTCTGACAGCTA	TATATATGACACCCTTGGTGATGGA
<i>Has2</i>	CGAGTCTATGAGCAGGAGCTG	GTGATTCCGAGGAGGAGAGACA
<i>Hmgcs2</i>	CCTACGGCTCAGGCTTAGCA	CAGATCTGACACACTAGACACCAGTTT
<i>Hpgd</i>	GACCTATCTTGGTTTGGATTACATGA	CGAAGCACATAAACAGGTTGCT
<i>Ifi202b</i>	CCCCTTCCAGTGATTCATCTG	GCACCTTTGCTAATGTTCTTTTTTG
<i>Il23a</i>	CCACAAGGACTCAAGGACAACA	GCTCCCCTTTGAAGATGTCAGA
<i>Lss</i>	GTGATGCAGGCACTGAAGCA	GCAGAAGTCCAGGCCTTGATT
<i>Mvd</i>	TCTACCCCTCAGCCTCAGCTATAA	AGGGTATAGGCTAGGCAGGCATA
<i>Mvk</i>	ATCCATGGGAACCCTTCTGG	GACGGGAGGCTCTTCAAGGA
<i>Npr2</i>	GCTGACCCGGCAAGTTCTGT	ACAATACTCGGTGACAATGCAGAT
<i>Pmvk</i>	AGCAGAGTCGACAGCAACGG	TCTCAATGACCCAGTCAAAGTTCC
<i>Ptgs2</i>	CCCTTCTCCCGTAGCAGAT	TGAACTCTCTCCGTAGAAGAACCTTT
<i>Ptx3</i>	TTGCTGAGACCTCGGATGAC	GCGAGTTCTCCAGCATGATGA
<i>Rpl19</i>	TCAGGCTACAGAAGAGGCTTGC	ATCAGCCCATCCTTGATCAGC
<i>Runx2</i>	CACCGACAGTCCCAACTTCCT	ACGGTAACCACAGTCCCATCTG
<i>Slc38a3</i>	CATCATGGGCAGTGGAATTCT	ACAGGGCGACCGCTGTAA
<i>Tgfr3</i>	CCAAGGGAGGTTTACATCCTAA	GAGTGTGCACGGAGGCAATG
<i>Tm7sf2</i>	AGCTTGGGTACCATTACCTACAG	GGCCCCTCGGAACATGTAGT
<i>Tnfr1</i>	ATACAAGCTCACCTACGCCGAA	ATCCATCCAGCAGCACAGACAT