Supplemental Data

Table 1. Primers for gene expression

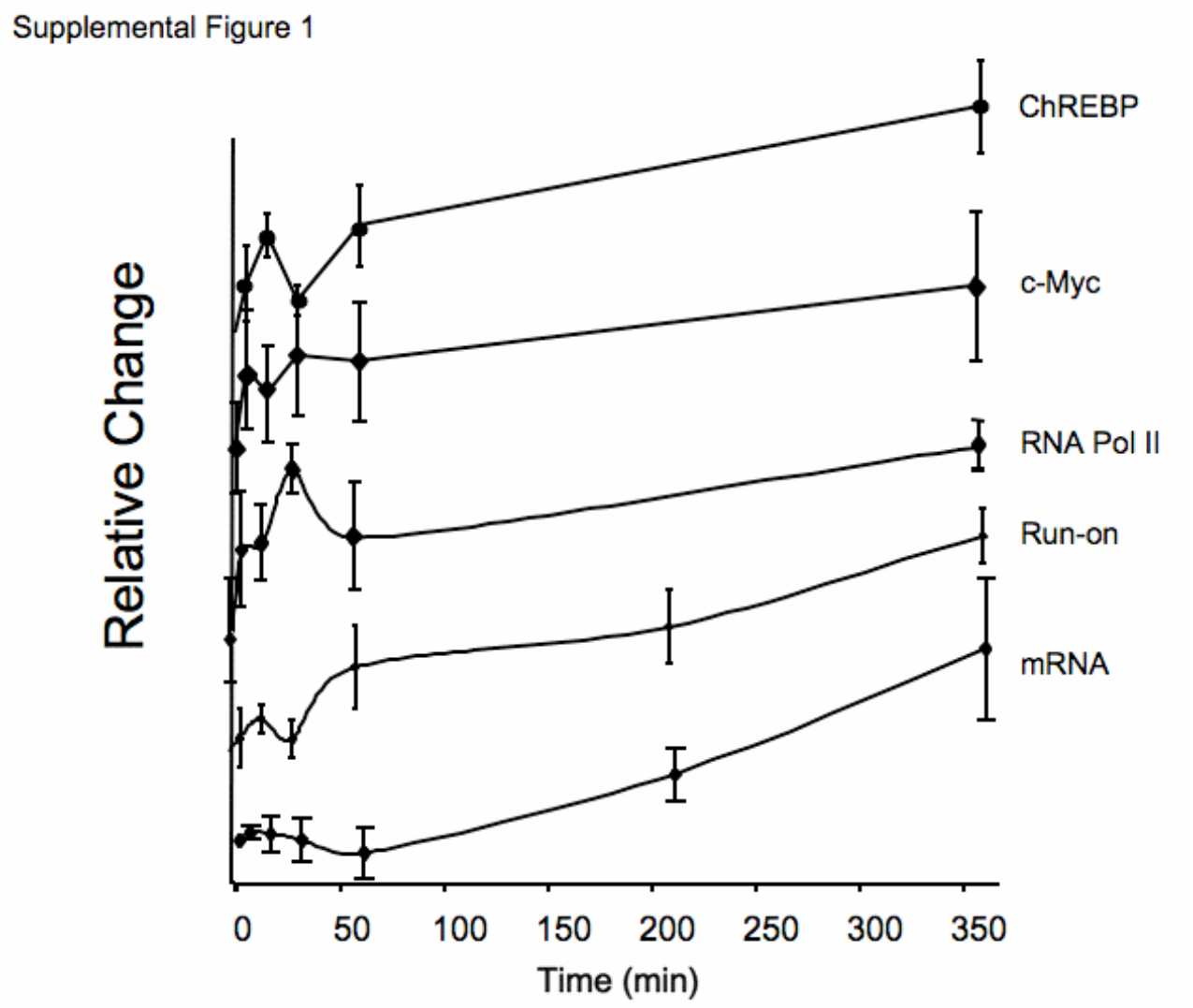
Gene name	Forward Primer	Reverse Primer
β-actin	AACACCCCAGCCATGTACGTAG	GAACCGCTCATTGCCGATAGT
ACC	TACAACGCAGGCATCAGAAG	TGTGCTGCAGGAAGATTGAC
Hbegf	GACCGATCTGGACCTTTTCA	CCGTGGATGCAGTAGTCCTT
Prok2	CCCGCTACTGCTACTTTTGC	ATGGAACTTTCCGAGTCAGG
Glut2	GTGACTGGGACACTGGTCCT	GGAGAGAGCCCAAAGGGTAG
GPDH	ATCAACACGCAACACGAGAA	CCCTTGAGCTGGTCACAGAT
Slc2a4	AGCAGATCGGCTCTGAAGAT	CTACCCAGCCAAGTTGCATT
Cyclin A2	GAATGAGACCCTGCATTTGG	GGTGCTCCATTCTCAGAACC
Cyclin E1	GACAGCTAGCGCGGTGTAG	GTTGCTGTGGTCCTTCGAGT

Table 2. Primers for ChIP assays

Gene name	Forward Primer	Reverse primer
β-actin	AACACCCCAGCCATGTACGTAG	GAACCGCTCATTGCCGATAGT
Pklr coding	GTGGAGCACGGTGGTATCTT	CTTCACGCCTTCATGGTTCT
Pklr +1200	TGAACTGAGGACCAGACAGAC	GTGTGTGTGTGTGTGCAAGA
Pklr +500	GTGCAAGAGCCTGAGTTTCC	CGATATCCAGAAGGCAGAGG
Pklr -500	CTAGGGGAAGGGGAGAGATG	TGGACAGACATGCTTCCAAA
Pklr -1100	ATCTGCCTGACTCCCACTGT	ACCACCTGGCACTTACTGCT
Pklr TSS	GGCGCAGTATAAAGCAGACC	CAATTCTCTGGCCTTCTCCA
Pklr ChoRE	CAGACCTGATCTGAGCCTTTG	CGTTGCTTACCTGCTGTGTC
α-actin promoter	CAGACCTGATCTGAGCCTTTG	CGTTGCTTACCTGCTGTGTC
Gpdh ChoRE	AGCCTGGAGGATGACAACAC	GTTTGAGCACCATGGCATC
Slc2a4 ChoRE	CTCTCCCTGGACGTGCTTAG	CATCCCCTCCACACATTTCT
Prok2 ChoRE	CTGGCGGCGGTTATAAAG	GGAGGGTTTCTGAGACCACA

Table 3. Primers for nuclear run-on

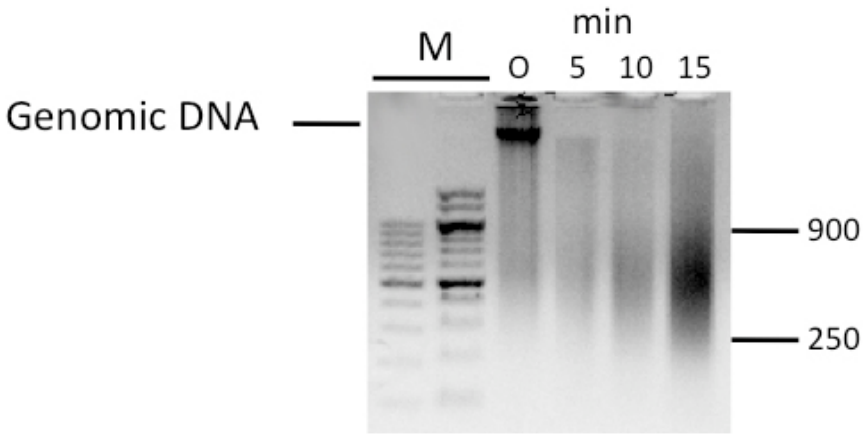
Gene name	Forward Primer	Reverse Primer
β-actin	TAGCCCTCTTTTGTGCCTTG	TGCCACTCCCAAAGTAAAGG
Pklr	GAACACCTCTGCCTTCTGGA	CCCTGCACAAATCTCACAAA



Supplemental Figure 1. **Molecular time course of Pklr gene expression.**

This figure compares how glucose affects ChREBP binding, the rate of transcription of Pklr, and the accumulation of Pklr mRNA. Of the factors tested, the biphasic binding of ChREBP after exposure to high glucose concentrations most closely correlates with the biphasic transcriptional activity. However, the accumulation of mRNA lags behind ChREBP binding and transcriptional rate, suggesting the first phase represents an unproductive "priming" initiation cycle – a process that may be common for newly activated genes (44).

Supplemental Figure 2



Supplemental Figure 2. **Sonication of genomic DNA for ChIP assay.**

This figure shows the extent of fragmentation of genomic DNA with increasing duration of sonication. Pictured is a reverse image of a 1% agarose gel, loaded with equal amounts of genomic DNA (1 μg) stained with ethidium bromide. Fifteen min of sonication with the Diagenode Bioruptor resulted in chromatin fragments ranging from 250 to 900 bp in size. Shown is representative of several independent experiments. M, 100 bp size markers.