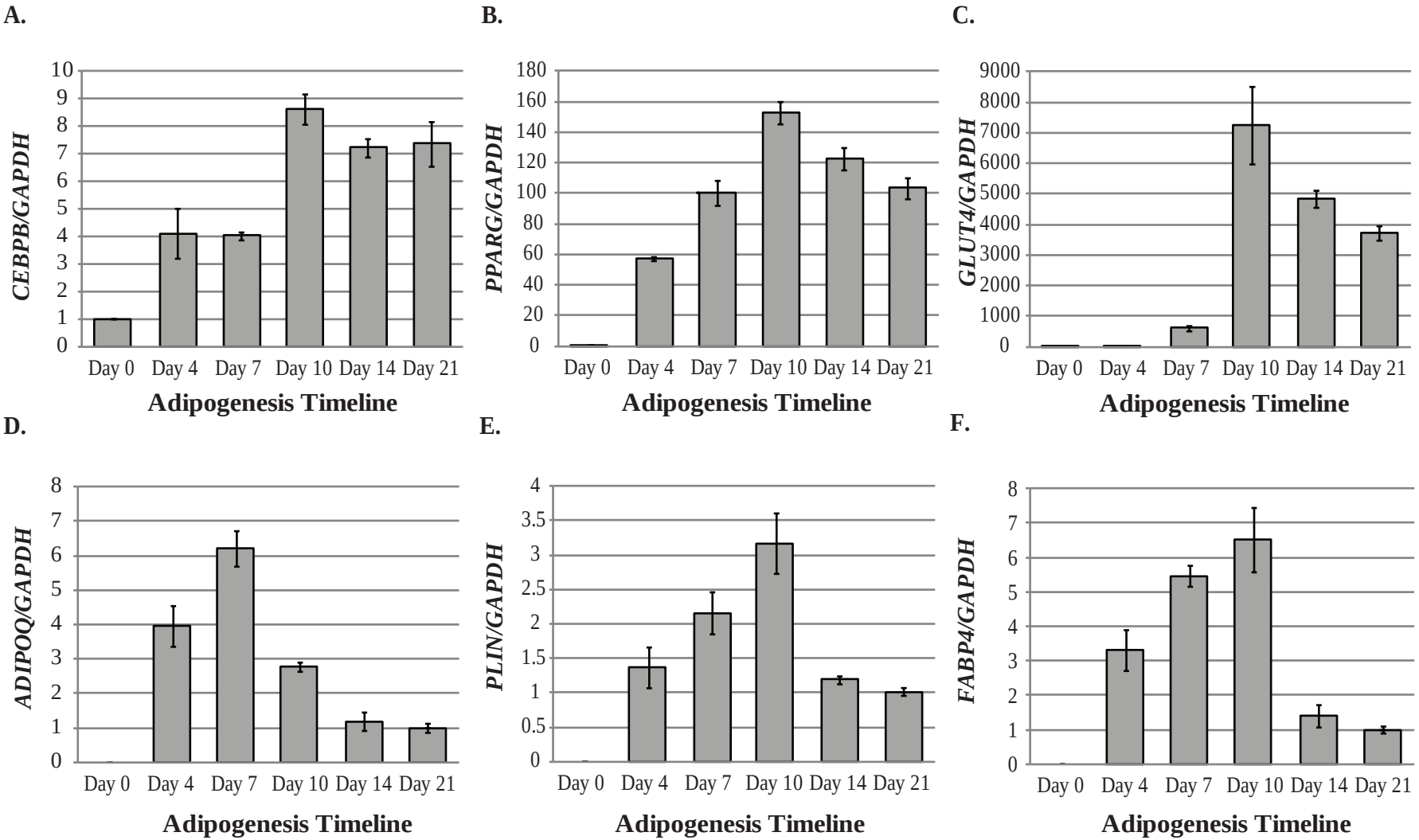
Supplementary Figure 1: Relative expression of *CEBPB, PPARG, GLUT4, ADIPOQ, PLIN* and *FABP4* during 21 days of adipogenesis in SGBS cells. Expression levels of target genes were determined by quantitative RT-PCR and are normalized to the control GAPDH gene.



Supplementary Figure 2: LipiD-QuanT performance on synthetic images with LDs and drawbacks of Oil Red o staining method for monitoring adipogenesis.

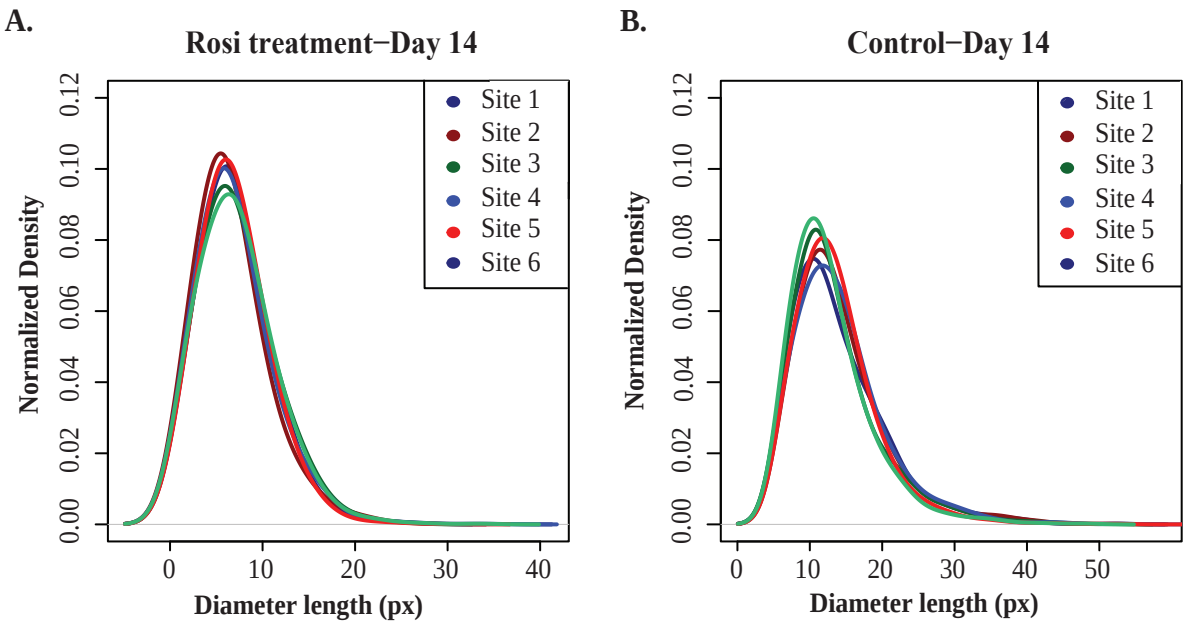
A- The LD diameter size density distribution is consistent between images taken from different parts of the same well containing 2 µmol/L Rosiglitazone treated cells on day 14 (n=4,572 LDs in 6 images).

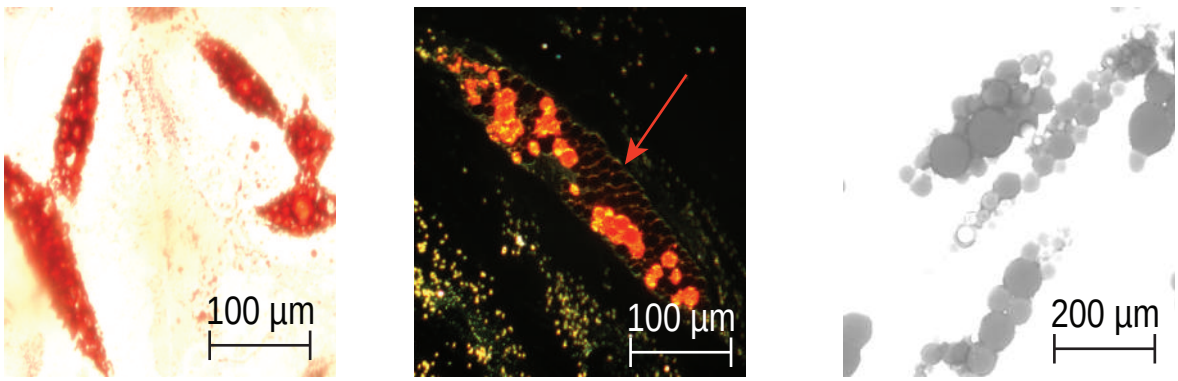
B- The LD diameter size density distribution is consistent between images taken from different parts of the same well containing untreated cells on day 14 (n =1,679 LDs in 6 images).

C- Oil Red O stained SGBS adipocytes with a few burst LDs and high background staining under phase contrast microscopy.

D- Oil Red O stained SGBS adipocytes with a few burst LDs with three dimensional mapping using Cytoviva microscopy.

E- Phase contrast image of well-fixed and Oil Red O stained mature SGBS adipocytes. This illustrates the variability of Oil Red O staining, as apparent by the variability in staining intensities of LD's of similar sizes.





Supplementary Table 1: Sequence of PCR primers used in quantitative RT-PCR.

Gene Name (Human)	Gene Bank ID	Amplicon (nt)	Primer Name	Length	Sequence
Glyceraldehyde-3-phosphate dehydrogenase (*GAPDH*)	NM_002046.3	66	**GAPDH-Forward**	19	AGCCACATCGCTCAGACAC
			GAPDH-Reverse	19	GCCCAATACGACCAAATCC
CCAAT/enhancer binding protein (C/EBP), beta (*CEBPB*)	NM_005194.2	65	**CEBPB -Forward**	18	CGCTTACCTCGGCTACCA
			CEBPB -Reverse	19	ACGAGGAGGACGTGGAGAG
Peroxisome proliferator-activated receptor gamma (*PPARG*)	NM_138712.3	96	**PPARG-Forward**	24	GACAGGAAAGACAACAGACAAATC
			PPARG-Reverse	21	GGGGTGATGTGTTTGAACTTG
Adiponectin, C1Q and collagen domain containing (*ADIPOQ*)	NM_004797.3	61	**ADIPOQ- Forward**	21	GGTGAGAAGGGTGAGAAAGGA
			ADIPOQ- Reverse	21	TTTCACCGATGTCTCCCTTAG
Perilipin 1 (*PLIN*)	NM_002666.4	101	**PLIN-Forward**	24	ACATTAAAGGGAAGAAGTTGAAGC
			PLIN-Reverse	19	GCAGCACATTCTCCTGCTC
Solute carrier family 2 (facilitated glucose transporter), member 4 (*SLC2A4/GLUT4*)	NM_001042.2	62	**GLUT4-Forward**	20	CTGTGCCATCCTGATGACTG
			GLUT4-Reverse	20	CGTAGCTCATGGCTGGAACT
Fatty acid binding protein 4, adipocyte (*FABP4*)	NM_001442.2	70	**FABP4-Forward**	23	CCACCATAAAGAGAAAACGAGAG
			FABP4-Reverse	20	GTGGAAGTGACGCCTTTCAT