Table 1 Primers sequences for real-time PCR analysis

Gene	Primers
PPARγ	5’- GTACTGTCGGTTTCAGAAGTGCC-3’
	5’- ATCTCCGCCAACAGCTTCTCCT -3’
C/EBPα	5’- GCAAAGCCAAGAAGTCGGTGGA -3’
	5’- CCTTCTGTTGCGTCTCCACGTT -3’
GluT4	5’- GGTGTGGTCAATACGGTCTTCAC -3’
	5’- AGCAGAGCCACGGTCATCAAGA -3’
GluT5	5’- ATCGCTGCCTTTGGCTCATCCT -3’
	5’- AGCAGCGTCAAGGTGAAGGACT -3’
AP2	5’- TGAAATCACCGCAGACGACAGG -3’
	5’- GCTTGTCACCATCTCGTTTTCTC -3’
Adiponectin	5’- AGATGGCACTCCTGGAGAGAAG-3’
	5’- ACATAAGCGGCTTCTCCAGGCT -3’
actin	5’- CATTGCTGACAGGATGCAGAAGG -3’
	5’- TGCTGGAAGGTGGACAGTGAGG -3’

Fig 1. Effects of mannose, fructose and glucose on adipose differentiation in 3T3-L1 cells. 3T3-L1 preadipocyte cells were differentiated under standard conditions as described in methods. During differentiation, the medium contained 11.1 mM glucose only (Ctrl), or 11.1 mM glucose with addition of 550 μM mannose (Mannose), 550 μM fructose (Fructose), or 550 μM glucose (Glucose). RNA was extracted Oil-red O staining was performed after differentiated for 8 days. (A) (B) Oil-red O staining of 3T3-L1 cells differentiated in medium containing 11.1 mM glucose with addition of 550 μM of different sugar (mannose, fructose and glucose). (C) Quantification by OD measurement at 540 nm for Oil red O staining of 3T3-L1 cells. (D) PPARγ and AP2 mRNA measured by real-time PCR in the 3T3-L1 cells following treatment with differentiation medium and 550 μM mannose, fructose, or glucose. One-way AVONA was carried out for statistic analysis. ns, not significant, * $p< 0.05$; ** $p< 0.01$.

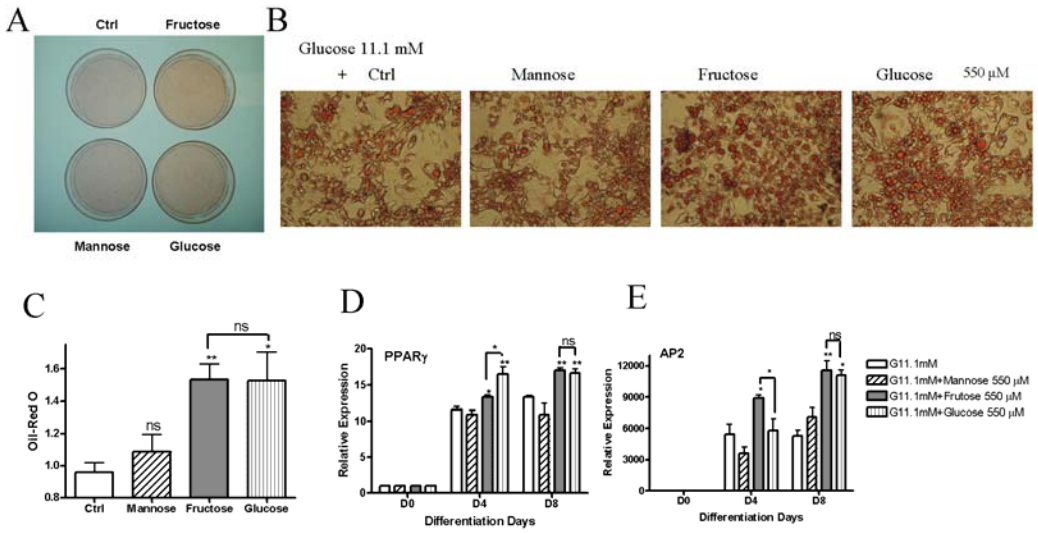

Fig 2. GluT4 antibody specificity was validated by western with blocking peptide. Each lane was loaded with 50μg 3T3-L1 cell lysate. The membrane was incubated with GluT4 antibody (1:500 diluted to final concentration 40 μg /ml) with no blocking peptide (lane 1) or with 80ug/ml blocking peptide (lane 2), then 2 pieces of membrane were incubated with secondary antibody together after 3 times wash with TBST. Immunoreactive proteins were visualized using SuperSignal Chemiluminescence Assay kit. GAPDH was served as loading control.