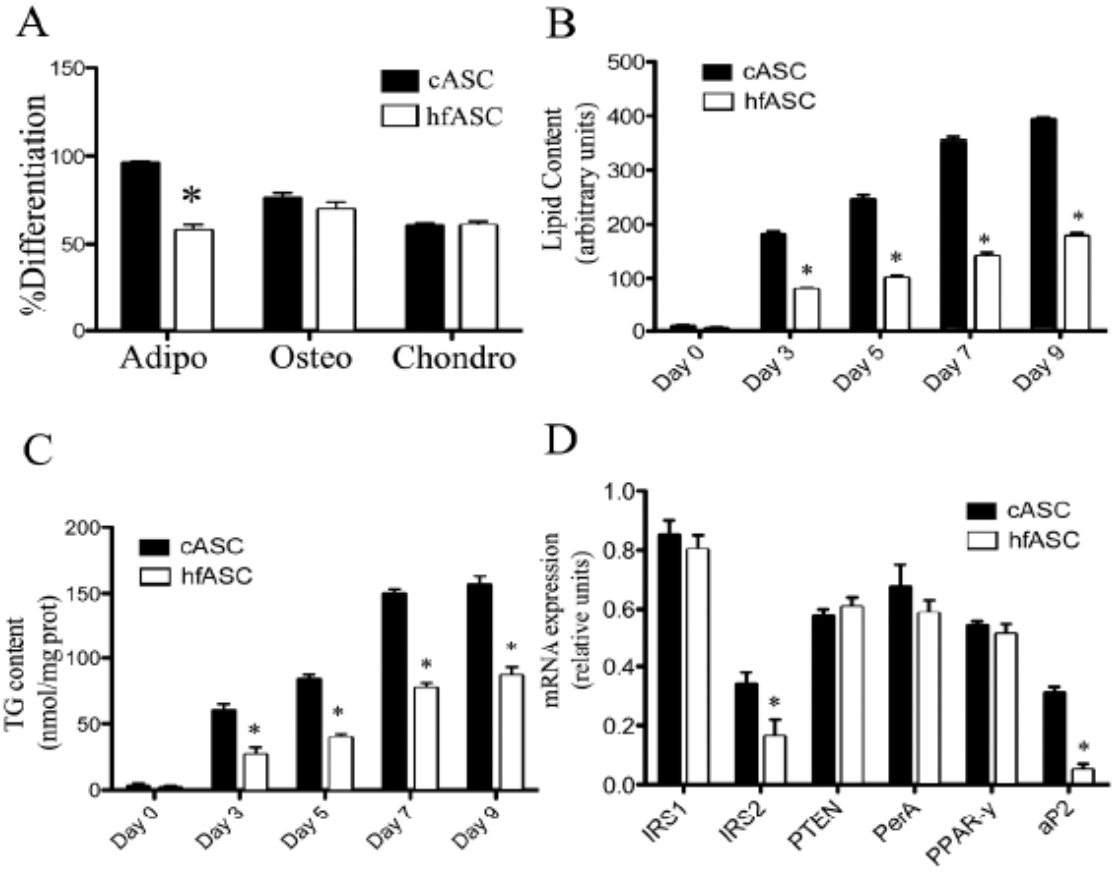
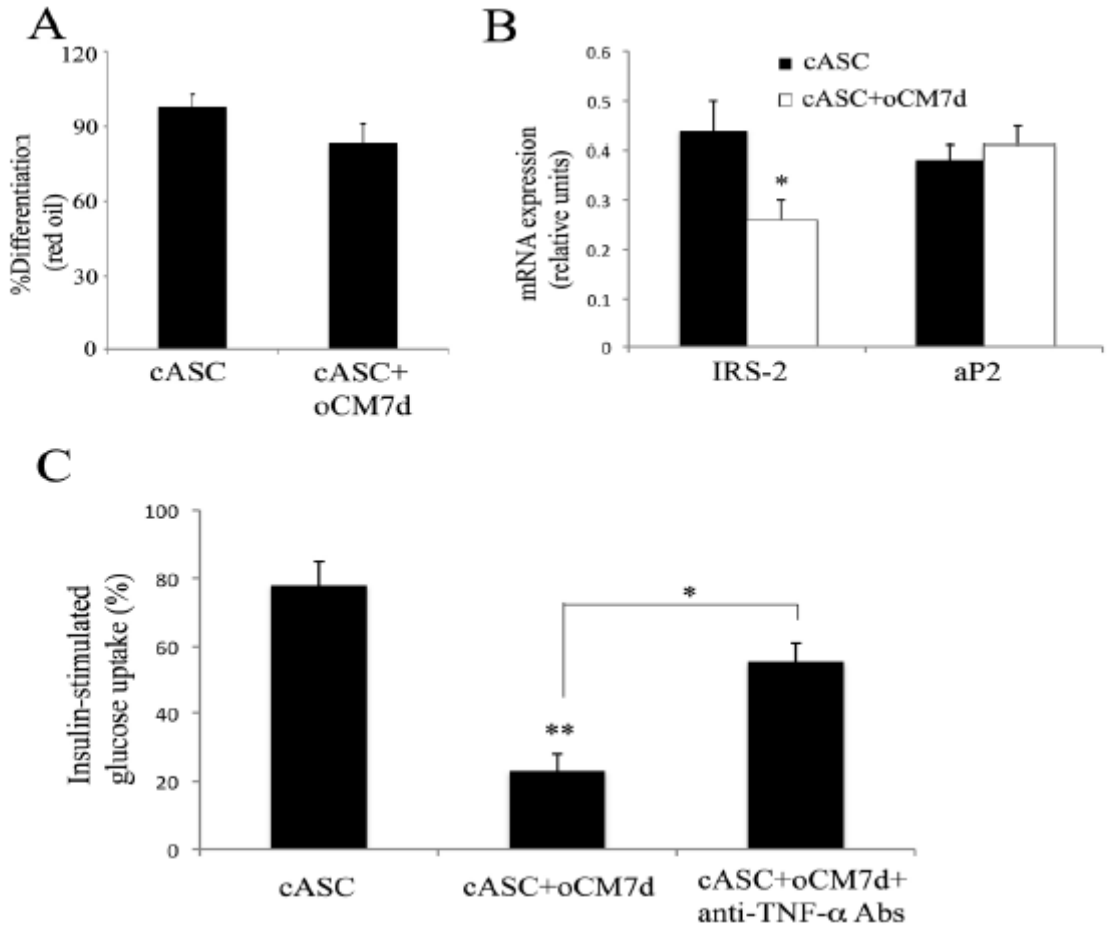
SUPPLEMENTARY DATA

Supplementary Figure 1. Metabolic characterization of ASC derived from adipose tissue of mice subjected to high fat diet (hfASC). A. Percentages of differentiation into adipose, osteogenic or chondrogenic tissues of control and high-fat diet ASCs (n=5). *p<0.05. B. Intracellular lipid accumulation in differentiating cASCs and hfASC (n=4). *p<0.05. C. Triglyceride (TG) content in differentiating cASCs and hfASC (n=4). *p<0.04. D. Gene expression profile of cASCs and hfASCs at day 7 of differentiation (n=5). *p<0.04.



SUPPLEMENTARY DATA

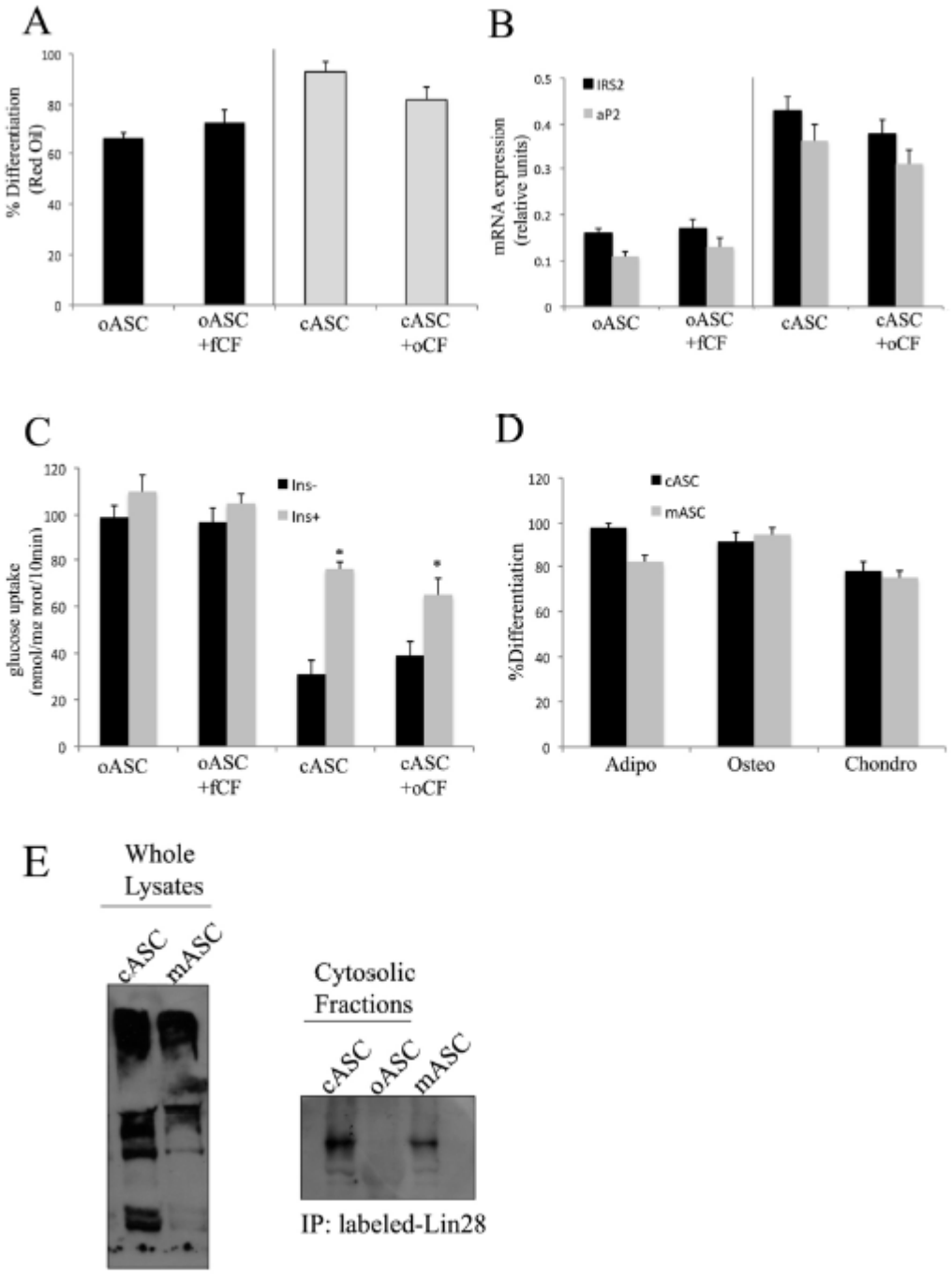
Supplementary Figure 2. A. Percentages of differentiation into adipose (Oil Red staining) tissues of cASCs treated or not with conditioned medium derived from oASC differentiated for 7 days (n=5). B. Gene expression profile of cASCs treated or not with conditioned medium derived from oASC differentiated for 7 days (n=5). *p<0.05. C. cASCs derived adipocytes (7 d) were cultured in the presence of conditioned medium from oASC-derived adipocytes (oCM) or in oCM plus 10 ng/ml anti-TNF-ąantibody for 24 h (n=5). Cells were then maintained for 2h in serum-free, low-glucose medium before stimulating with insulin (100 nM, 30 min). Data are expressed as the percentage of the induced glucose uptake (stimulated – basal) at 7 d differentiation (n=5). **p<0.01; *p<0.04.



Supplementary Figure 3. A. Percentages of differentiation into adipose (Oil Red staining) tissues of oASC treated or not with cytosolic fraction derived from fibroblasts (fCF) and cASCs treated or not with cytosolic fraction derived from oASC (oCF) (n=5). B. Gene expression profile of oASC treated or not with cytosolic fraction derived from fibroblasts (fCF) and of cASCs treated or not with cytosolic fraction derived from oASC (n=5). C. oASCs derived adipocytes (7 d) were culture in the presence of fCF and cASCs derived adipocytes (7 d) were cultured in the presence of oCF for 24 h (n=5). Cells were then maintained for 2h in serum-free, low-glucose medium before stimulating with insulin (100 nM, 30 min). Data are expressed as the percentage of the induced glucose uptake (stimulated – basal) at 7 d differentiation (n=5). D. Percentages of differentiation into adipose (Oil Red staining), chondrogenic (Toluidine Blue staining) or osteogenic (Alizarin Red staining) tissues of cASCs and mASCs were quantified by histochemistry (n=5). E. Radiolabelled proteins were detected in cASC lysates and 48h later in mASC lysates. One representative image out of three independent experiments is shown.

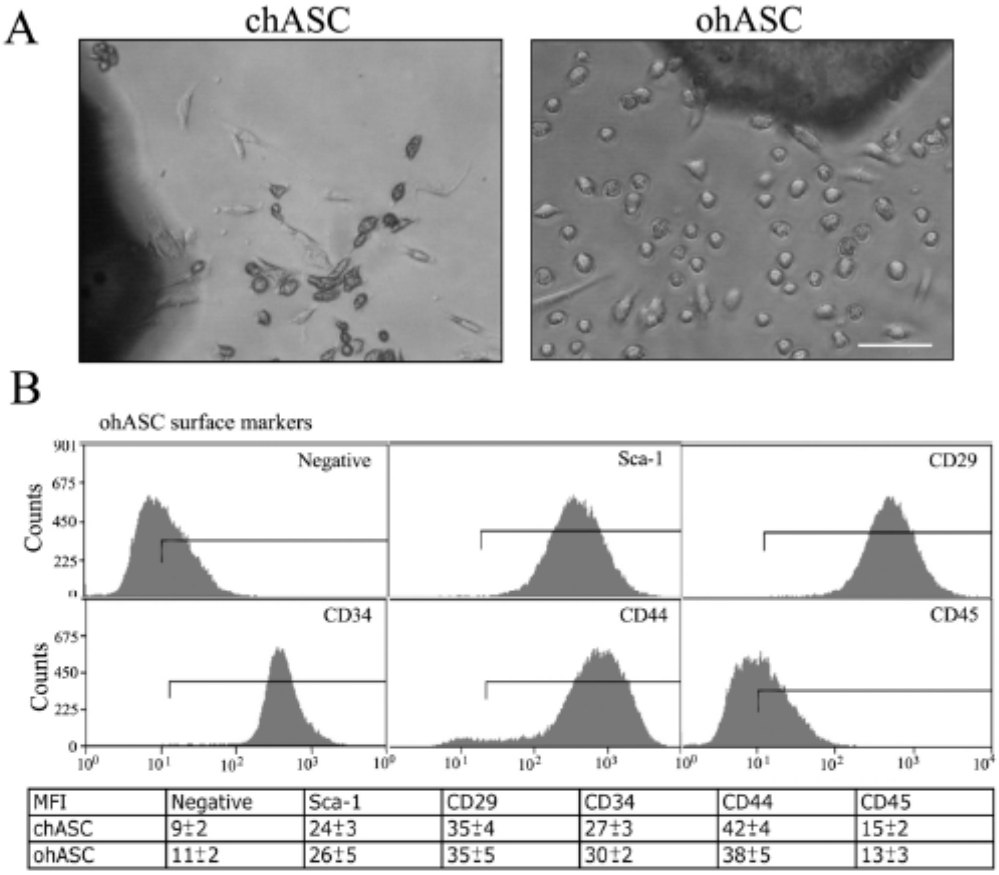
SUPPLEMENTARY DATA

Immunoprecipitation of labeled Lin28 was performed on cytosolic fractions derived from metabolic labeled cASC and oASC cells (24h) as well as from mASC lysates (48h). One representative image out of three independent experiments is shown.



SUPPLEMENTARY DATA

Supplementary Figure 4. Isolation and differentiation of human adipose stem cells. A. Representative image of proliferating ASCs emerging from adipose tissue explants obtained from humans (n=5+1). Bar, 150 □m. B. Flow cytometry characterization of ASCs from obese patients (One out of five independent experiments is represented). MFI values for surface markers in control and obese human ASCs (The mean of five independent experiments for each cell type is represented). C. Percentages of differentiation into adipose, chondrogenic or osteogenic tissues of control and obese human ASCs (n=5). *p<0.05.



MFI	Negative	Sca-1	CD29	CD34	CD44	CD45
chASC	9±2	24±3	35±4	27±3	42±4	15±2
ohASC	11±2	26±5	35±5	30±2	38±5	13±3