



Fig. a. Method of measuring Haematoxylin and eosin stain showing the thickness and area of a mouse posterior knee joint capsule (magnification 4 \times). a: posterior knee joint capsule thickness (double arrow); the posterior capsular thickness was measured behind the meniscus, i.e. the portion from the extension of the perpendicular line (chain line) drawn from the apex of the meniscus to its trailing edge. b: posterior knee joint capsule area (dashed line). The area surrounded by the dashed line indicates the posterior knee joint capsule area. F, femur; T, tibia.

Table i. Fibroblasts culture groups with or without metformin.

Group name	Group background
In normal medium	
WT met(-)	C57BL6J male mice without metformin
WT met(+)	C57BL6J male mice with metformin
Db met(-)	db/db male mice without metformin
Db met(+)	db/db male mice with metformin
In HG medium	
WT met(-) HG	C57BL6J male mice without metformin
WT met(+) HG	C57BL6J male mice with metformin
Db met(-) HG	db/db male mice without metformin
Db met(+) HG	db/db male mice with metformin

Db, diabetes; HG, high glucose; WT, wild-type.

Table ii. Fibroblasts culture groups with or without AdipoRon.

Group name	Group background
In normal medium	
WT con	C57BL6J male mice without AdipoRon
WT A100	C57BL6J male mice with AdipoRon
Db con	db/db male mice without AdipoRon
Db A100	db/db male mice with AdipoRon
In HG medium	
WT con HG	C57BL6J male mice without AdipoRon
WT A100 HG	C57BL6J male mice with AdipoRon
Db con HG	db/db male mice without AdipoRon
Db A100 HG	db/db male mice with AdipoRon

Db, diabetes; HG, high glucose; WT, wild-type.

Table iii. Polymerase chain reaction and primer sequences.

Gene name	Gene bank	Primer sequences (5'–3')	
<i>B2m</i>	NM_009735.3	Forward	CTGACCGGCCTGTATGCTAT
		Reverse	CCGTTCTTCAGCATTTGGAT
<i>Col1a1</i>	NM_007742.4	Forward	GAGCGGAGAGTACTGGATCG
		Reverse	GTTTCGGGCTGATGTACCAGT
<i>Col1a2</i>	NM_007743.3	Forward	GTGTTCAAGGTGGCAAAGGT
		Reverse	GACCGAATTCACCAGGAAGA
<i>Col3a1</i>	NM_009930.2	Forward	ACCAAAGGTGATGCTGGAC
		Reverse	GACCTCGTGCTCCAGTTAGC
<i>TGF-β1</i>	NM_011577.2	Forward	GACTCTCCACCTGCAAGACC
		Reverse	GACTGGCGAGCCTTAGTTTG
<i>Acta2</i>	NM_007392.3	Forward	TGTGCTGGACTCTGGAGATG
		Reverse	GAAGGAATAGCCACGCTCAG
<i>Ccn2</i>	NM_010217.2	Forward	CACTCTGCCAGTGGAGTTCA
		Reverse	GTAATGGCAGGCACAGGTCT
<i>Adiponectin</i>	NM_009605	Forward	GTTGCAAGCTCTCCTGTTCC
		Reverse	ATCCAACCTGCACAAGTTCC

Acta2, actin $\alpha 2$; *B2m*, β -2-microglobulin; *Col1a1*, IA1 collagen; *Col1a2*, IA2 collagen; *Col3a1*, IIIA1 collagen; *Ccn2*, cellular communication network factor 2; *TGF-β1*, transforming growth factor beta-1.