

## **Supplementary Material**

10.1302/2046-3758.137.BJR-2023-0384.R1

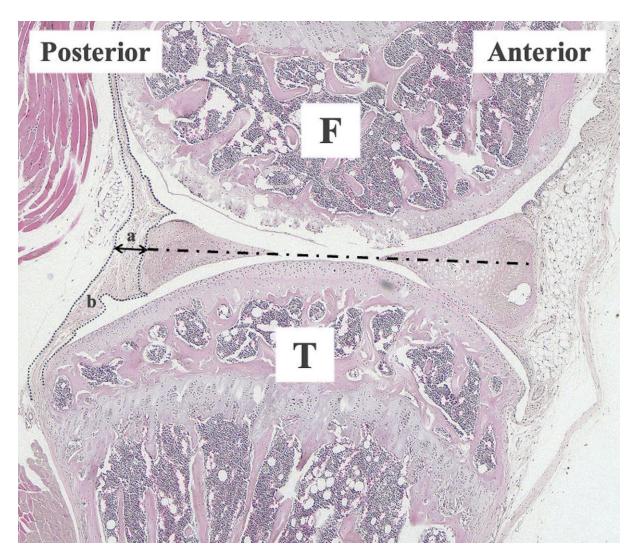


Fig. a. Method of measuring Haematoxylin and eosin stain showing the thickness and area of a mouse posterior knee joint capsule (magnification 4x). a: posterior knee joint capsule thickness (double arrow); the posterior capsular thickness was measured behind the meniscus, i.e. the portion from the extension 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')	
B2m	NM_009735.3	Forward	CTGACCGGCCTGTATGCTAT
		Reverse	CCGTTCTTCAGCATTTGGAT
Col1a1	NM_007742.4	Forward	GAGCGGAGAGTACTGGATCG
		Reverse	GTTCGGGCTGATGTACCAGT
Col1a2	NM_007743.3	Forward	GTGTTCAAGGTGGCAAAGGT
		Reverse	GACCGAATTCACCAGGAAGA
Col3a1	NM_009930.2	Forward	ACCAAAAGGTGATGCTGGAC
		Reverse	GACCTCGTGCTCCAGTTAGC
TGF-61	NM_011577.2	Forward	GACTCTCCACCTGCAAGACC
		Reverse	GACTGGCGAGCCTTAGTTTG
Acta2	NM_007392.3	Forward	TGTGCTGGACTCTGGAGATG
		Reverse	GAAGGAATAGCCACGCTCAG
Ccn2	NM_010217.2	Forward	CACTCTGCCAGTGGAGTTCA
		Reverse	GTAATGGCAGGCACAGGTCT
Adiponectin	NM_009605	Forward	GTTGCAAGCTCTCCTGTTCC
		Reverse	ATCCAACCTGCACAAGTTCC

Acta2, actin α2; 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.