

## SUPPLEMENTARY INFORMATION

### **Integrin alpha 11 in regulation of myofibroblasts phenotype: Implication for fibrotic diseases**

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**Supplementary Table 1: Antibodies used for the immunohistochemistry**

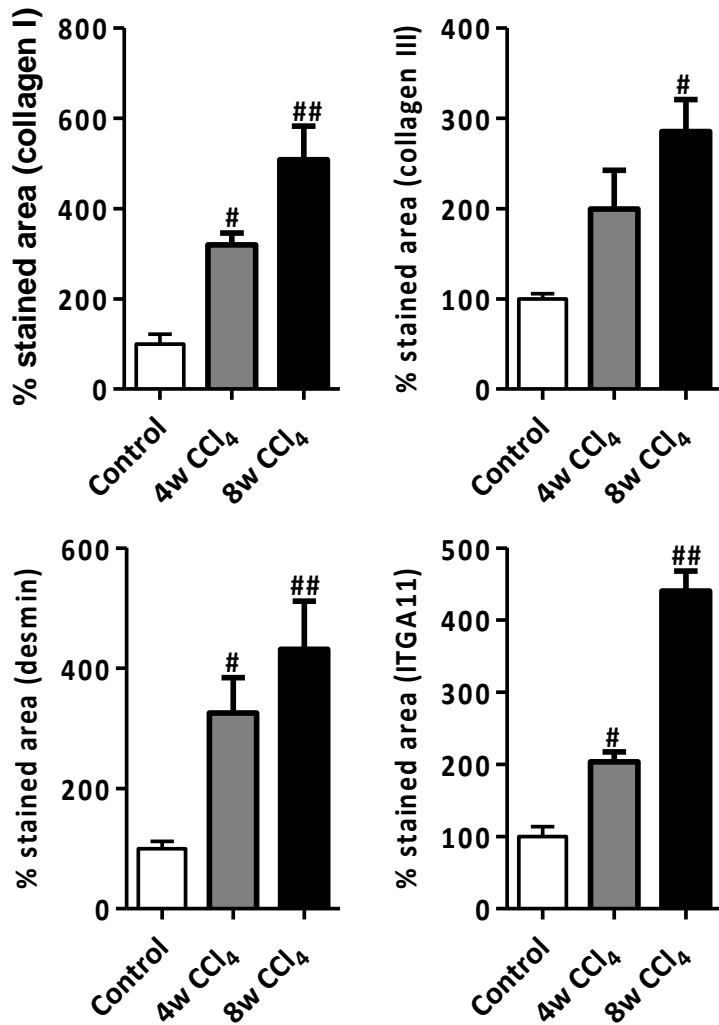
<b>Primary Antibody</b>	<b>Source</b>	<b>Catalog no.</b>
Polyclonal rabbit anti- $\alpha$ -SMA	Abcam	ab5694
Monoclonal mouse anti- $\alpha$ -SMA	Sigma	A2547
Polyclonal goat anti-collagen I	Southern Biotech	1310-01
Polyclonal goat anti-desmin	Santa Cruz	sc-7559
Polyclonal goat anti-vimentin	Santa Cruz	sc-7557
Polyclonal goat anti-human ITGA11	R & D systems	AF4235
Monoclonal rat anti-ITGA11	R & D systems	MAB4235
Monoclonal rat anti-Gli1	R & D systems	MAB3324
Monoclonal mouse Anti-Vinculin antibody	Sigma	V9131
<b>Secondary Antibody</b>	<b>Source</b>	<b>Catalog no.</b>
Polyclonal Goat anti-rabbit IgG	DAKO	P044801
Polyclonal Goat anti-mouse IgG	DAKO	P044701
Polyclonal Rabbit anti-mouse IgG	DAKO	P016102
Polyclonal Rabbit anti-rat IgG	DAKO	P045001
Polyclonal goat anti-rat IgG	DAKO	sc2006
Polyclonal Rabbit anti-Goat IgG	DAKO	P044901
Alexa Fluor® 594 Donkey anti-Goat IgG (H+L)	Life technologies	A-11058
Alexa Fluor® 488 Donkey Anti-Goat IgG (H+L)	Life technologies	A-11055
Alexa Fluor® 594 Donkey Anti-Rabbit IgG (H+L)	Life technologies	A-21207
Alexa Fluor® 488 Donkey anti-Rabbit IgG (H+L)	Life technologies	A-21206

**Supplementary Table 2: Sequence of the mouse primers used for quantitative real-time PCR**

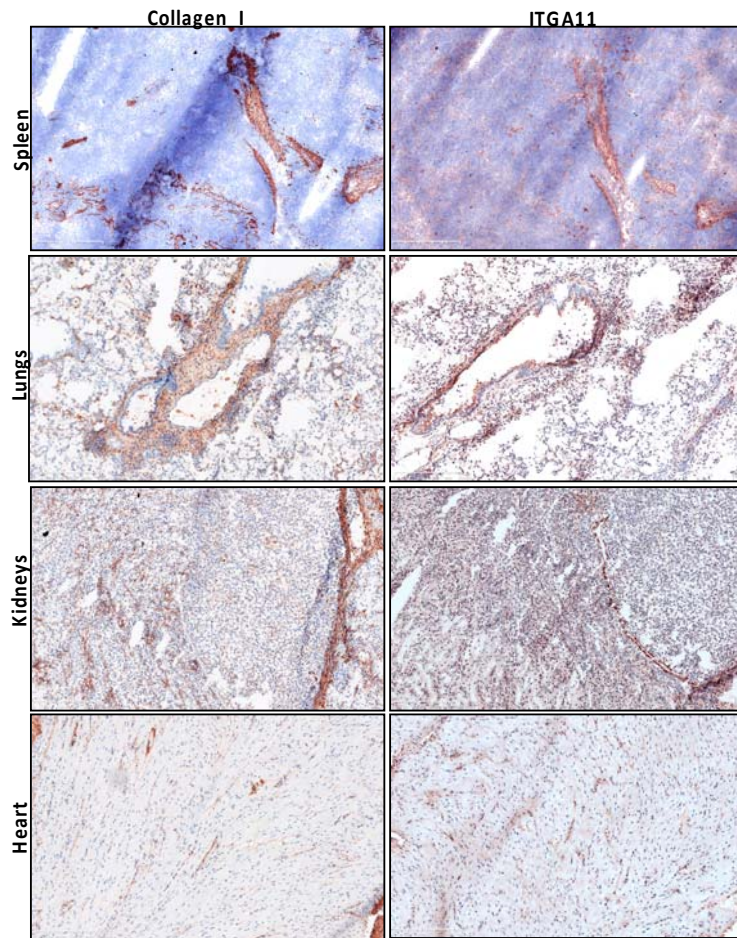
<b>Gene</b>	<b>Forward primer sequence (5'-3')</b>	<b>Reverse primer sequence (5'-3')</b>
Collagen 1 $\alpha$ 1	TGACTGGAAGAGCGGAGAGT	ATCCATCGGTCATGCTCTCT
Collagen 3 $\alpha$ 1	ACTGTCCCACGTAAGCACTG	CAGGAGGGCCATAGCTGAAC
Desmin ( $\alpha$ -SMA)	ATGCAGCCACTCTAGCTCGT	CTCATACTGAGCCCCGGATGT
ACTA2	ACTACTGCCGAGCGTGAGAT	CCAATGAAAGATGGCTGGAA
GAPDH	ACAGTCCATGCCATCACTGC	GATCCACGACGGACACATTG
TGF $\beta$ 1	GGACTCTCCACCTGCAAGAC	CTGGCGAGCCTTAGTTTGGA
TIMP1	ATCAGTGCCTGCAGCTTCTT	TGACGGCTCTGGTAGTCCTC
MMP9	CGTCGTGATCCCCACTTACT	AACACACAGGGTTTGCCTTC
MMP13	CCAGAACTTCCCAACCATGT	GTCTTCCCCGTGTTCTCAA
ITGA11	GGACTTCTTACCGACCAGG	CAGCCTCAGGTTGCAGATGA
PDGF $\beta$ R	GCTGGAGCTGAGTGAGAGTC	GCAGGTAGACCAGGTGACAT
CD31	TCCCTGGGAGGTCGTCCAT	GAACAAGGCAGCGGGTTTA
Gli1	TGAAGAAGCAGTTGGGACGG	GAACATGGCGTCTCAGGGAA
SOX9	GTGCAAGCTGGCAAAGTTGA	TGCTCAGTTCACCGATGTCC
ITGB1	GCAAATGCCAAATCTTGCGG	TGGCTGGCAACCCTTCTTTT

**Supplementary Table 3: Sequence of the human primers used for quantitative real-time PCR**

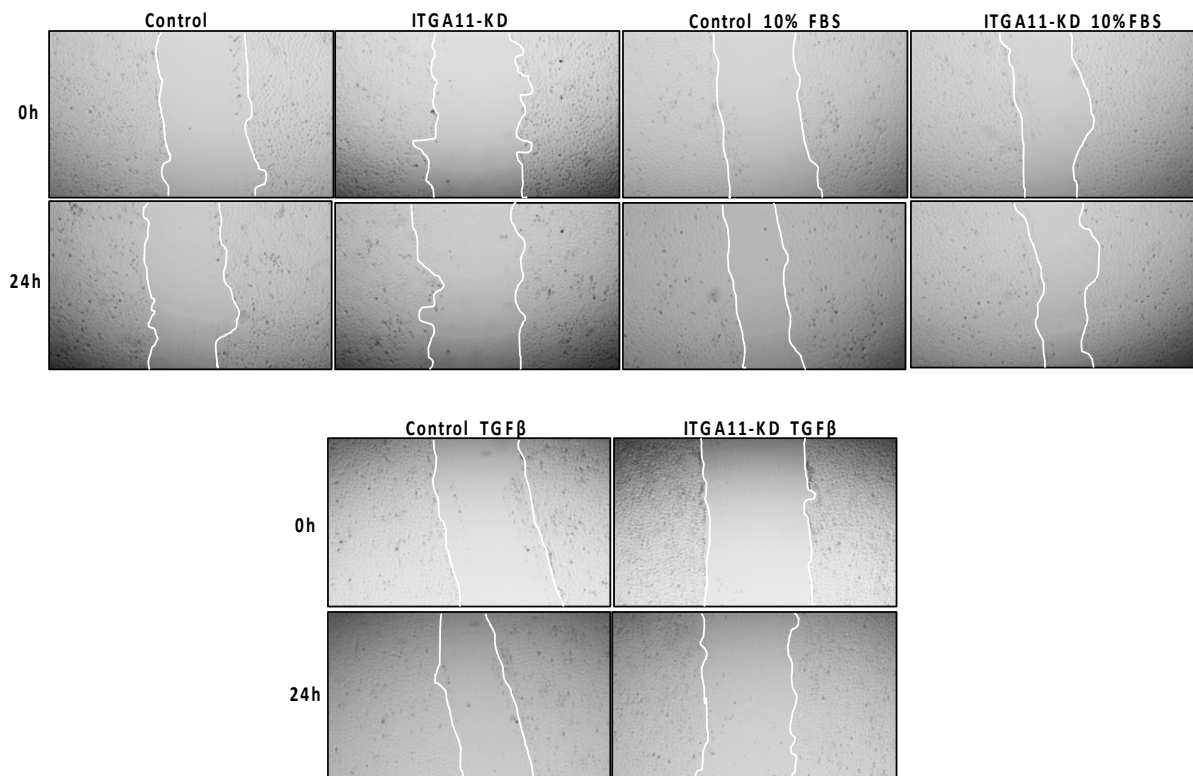
<b>Gene</b>	<b>Forward primer sequence (5'-</b>	<b>Reverse primer sequence (5'-3')</b>
Collagen 1 $\alpha$ 1	GTACTGGATTGACCCCAACC	CGCCATACTCGAACTGGAAT
Desmin	GCGGGTTTCGGCTCTAAGG	AGAAACTCCTGGTTCACCGC
ACTA2	CCCCATCTATGAGGGCTATG	CAGTGGCCATCTCATTTC
Vimentin	AAATGGCTCGTCACCTTCGT	CAGCTTCCTGTAGGTGGCAA
GAPDH	TCCAAAATCAAGTGGGGCGA	TGATGACCCTTTGGCTCCC
PDGF $\beta$ R	CATGGGGGTATGGTTTTGTC	GTAAGGTGCCAACCTGCAAT
TIMP1	GGGACACCAGAAGTCAACC	GGGTGTAGACGAACCGGATG
ITGA5	CAACTTCTCCTTGGACCC	GTCCTCTATCCGGCTCTGC
ITGA11	CAGCTCGCTGGAGAGATACG	TTACAGGACGTGTTGCGCTC
ITGB1	CCGCGCGGAAAAGATGAAT	CCACAATTTGGCCCTGCTTG
Paxillin	CATGGACGACCTCGACGC	CAAGAACACAGGCCGTTGG
SOX9	AGGAAGTCGGTGAAGAACGG	CGCCTGAAGATGGCGTTG
Gli1	CCCGGAGTGCAGTCAAGTT	AGATGTGCATCGCGAGTTGA
SHH	CAAGCTGGTGAAGGACCTGA	CGCGTCTCGATCACGTAGAA
Ptch1	TGTAATTGTGAGTCCGCGCT	GACGCTGGGCTTGGATTTCA
Smo	TAGGGCTTGGGGAGTCGT	TGCGCCAGAGAATCCG
Gli2	CTGTAGGTGAGTCGTCCAGC	CTACTGTCAAGGGGGAAGCAG



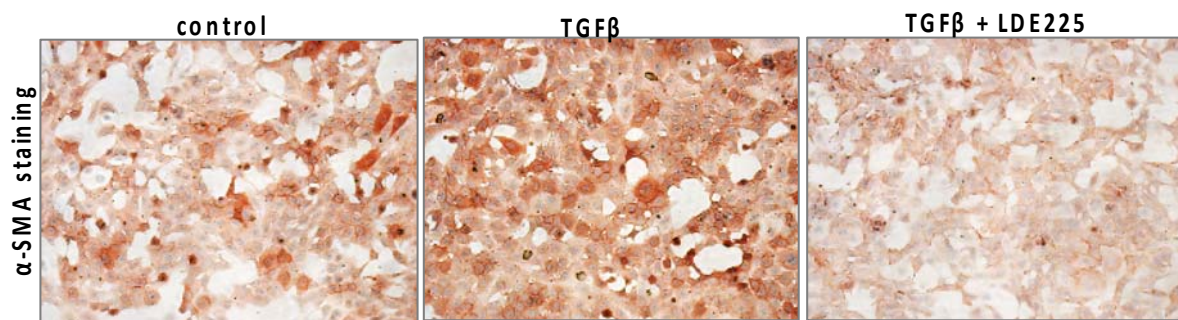
**Supplementary Figure S1. Histological analysis of fibrotic parameters and ITGA11 in control and CCl<sub>4</sub>-induced liver fibrosis mouse models.** Quantitative histological analysis of Collagen I, Collagen III, Desmin and ITGA11 immunohistochemical stainings were performed in livers of control (olive-treated non-fibrotic), 4 weeks and 8 weeks CCl<sub>4</sub>-treated groups. Data represent mean  $\pm$  SEM; n=4. #p<0.05, ##p<0.01, denotes statistical significance as compared to control group.



**Supplementary Figure S2. ITGA11 expression in normal healthy mouse organs.** Representative micrographs (Scale bar, 500 $\mu$ m) showing Collagen-I and ITGA11 stained sections from major organs (spleen, lungs, kidneys and heart) from olive oil-treated (control, n=5) healthy mice.

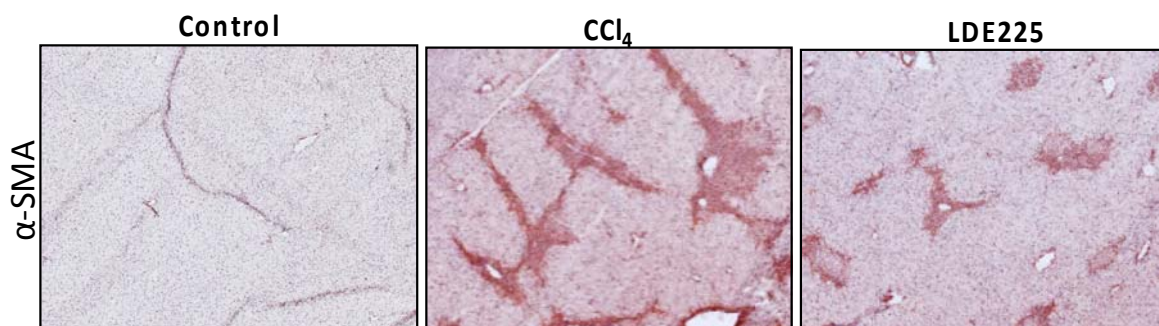


**Supplementary Figure S3. Wound healing response in ITGA11-KD HSCs versus control HSCs.** Representative images depicting scratch wounds made at 0hr and wound closure at 24hr as performed on control HSCs and ITGA11-KD HSCs incubated with different conditions i.e. 0% FBS, 10% FBS and 5ng/ml TGFβ.



**Supplementary Figure S4. Effect of hedgehog inhibition *in vitro* on  $\alpha$ -SMA expression on TGF $\beta$ -activated human HSCs.** Representative images (scale bars, 200 $\mu$ m) of  $\alpha$ -SMA stained HSCs treated with medium alone (control), TGF $\beta$  (5ng/ml)  $\pm$  10 $\mu$ M Hedgehog inhibitor (LDE225).





**Supplementary Figure S5. Effect of hedgehog inhibition on  $\alpha$ -SMA expression *in vivo* in CCl<sub>4</sub>-induced acute liver injury mouse model.** Representative photomicrographs (200 $\mu$ M) (n=5 per group) of  $\alpha$ -SMA stained liver sections from normal (olive oil treated), vehicle-treated CCl<sub>4</sub> and LDE225-treated CCl<sub>4</sub> mice.