







Patient	HE	PDGFRα	Collagen I	PDGFRα Collagen I DAPI	$PDGFR\alpha$ staining grade	HOP content (µg/mg of tissue)
DMD1					5	7.55
DMD2					5	6.38
DMD3	( Asia				5	3.30
DMD4	J.F.				4	5.89
DMD5					4	4.75
DMD6					4	4.54
DMD7					4	2.42
DMD8	制化				3	3.62
DMD9					3	2.98
DMD10				S.	2	3.69
DMD11					2	2.38
Normal1					1	0.54
Normal2					1	0.51
Normal3				×	1	0.67

## Supplementary figure legends

**Supplementary figure S1.** Effect of oxygen concentration on the growth of human muscle-derived cells

Human muscle-derived cells were cultured in normoxic condition (a) or in hypoxic condition ( $3\% O_2$ , b). Scale bar: 100  $\mu$ m.

**Supplementary figure S2.** Immunofluorescent staining of cultured cells Cultured CD56<sup>+</sup> cells and PDGFR $\alpha^+$  cells were subjected to immunofluorescent staining for PDGFR $\alpha$ . Scale bar: 50 µm.

Supplementary figure S3. Three-color FACS analysis of human muscle-derived cells Human muscle-derived cells were stained with anti-CD166-FITC, anti-CD56-PE, and biotinylated anti-PDGFR $\alpha$  antibodies, and subsequently subjected to streptavidin-PE/Cy5 staining. Positive gates were set by analyzing negative control sample (shown on the right). Consistent results were obtained from three independent experiments.

Supplementary figure S4. Effect of chemical inhibitors on the viability of PDGFR $\alpha^+$  cells

PDGFR $\alpha^+$  cells were cultured with or without inhibitors at the concentration indicated. Cell viability was represented as the ratio to untreated control cells (cont) and shown as means  $\pm$  s.d. of three independent preparations. One mM imatinib was used as positive control for toxic condition. Supplementary figure S5. Correlation between PDGFR $\alpha$  staining grade and severity of fibrosis

HE staining images, immunofluorescent staining images (PDGFRα and collagen I),

PDGFR $\alpha$  staining grades, and HOP contents from all patients investigated are shown.

Scale bars: 100 µm in HE staining and 20 µm in immunofluorescent staining.