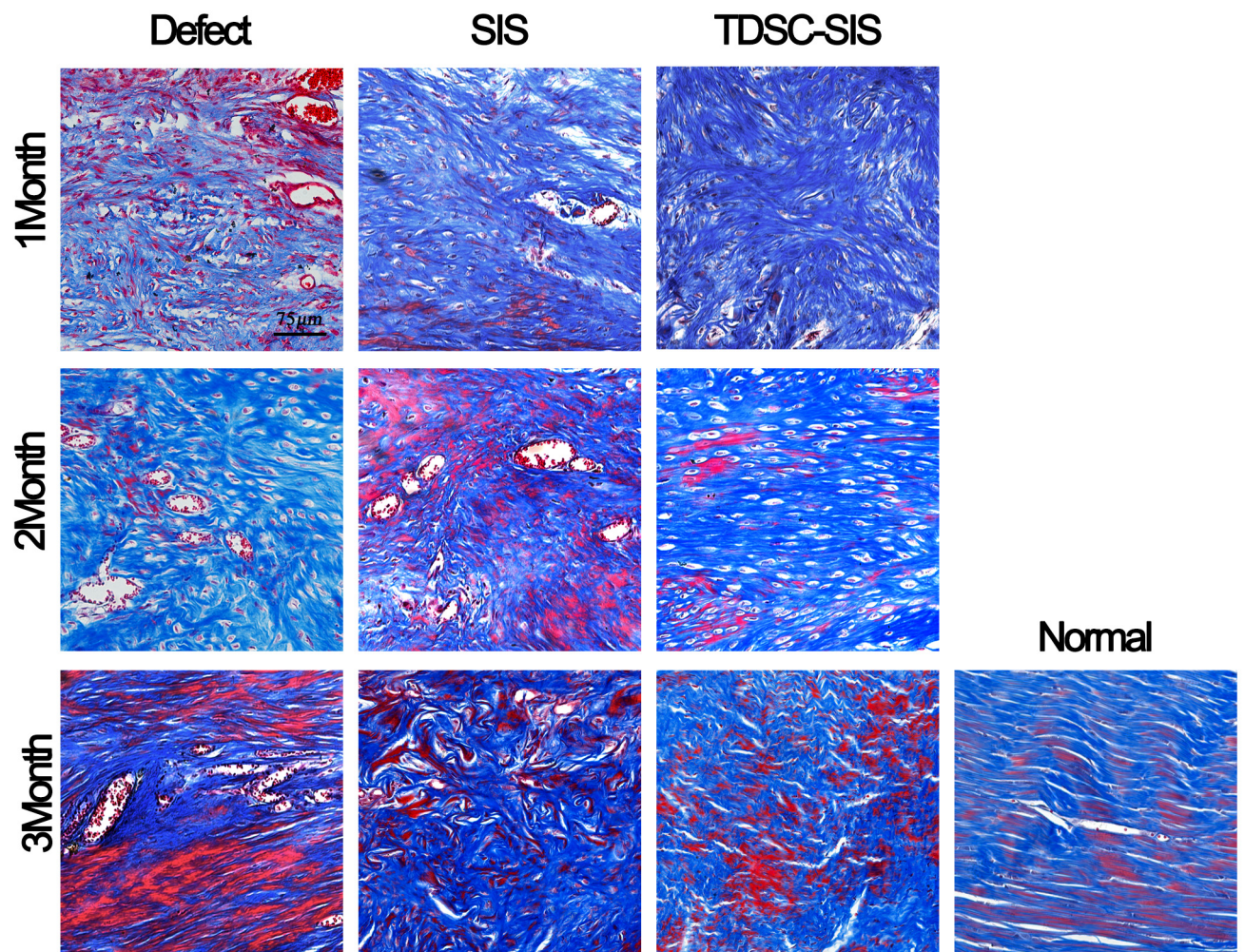


**Supplementary Table S1** Histological scoring system

	pt		pt
<i>Extracellular matrix (ECM) organization of the whole tendon</i>		<i>Cellularity/cell-matrix-ratio</i>	
		Physiological	2
Wavy, compact and parallel arranged collagen fibres	2	Locally increased cell density	1
In part compact, in part loose or not orderly	1	Increased cell density or decreased ECM content	0
Loosely composed, not orderly ("granulation" tissue)	0		
<i>Proteoglycan content (alcian blue staining)</i>		<i>Cell distribution</i>	
Normal	1	Homogeneous, physiological	1
Focally increased	0	Focal areas of elevated cell density (cell clustering)	0
<i>Cell alignment</i>		<i>Transition from defect to normal tissue</i>	
Uniaxial	2	Scaffold integrated, no gaps at the margin visible	2
Areas of irregularly arranged cells (10e50%)	1	Recognizable transition	1
More than 50% of cells with no uniaxial alignment	0	Abrupt transition, splitting/gaps detectable, callus tissue	0
<i>Cell nucleus morphology</i>		<i>Organization of repair tissue of the tendon callus</i>	
Predominantly elongated, heterochromatic cell nuclei (tenocytes)	2	Homogeneous (whole tissue with similar composition)	2
10-30% of the cells possess large, oval, euchromatic or polymorph heterochromatic nuclei	1	Locally heterogeneous tissue composition	1
Predominantly larger, oval, euchromatic or polymorph, heterochromatic nuclei	0	Whole tissue composition completely changed	0
<i>Configuration of callus</i>		<i>Vascularisation in the defect area</i>	
Normal, only in the defect area, locally confined	1	Hypo-vascularized, like surrounding tendon (small capillaries)	1
Strong, change of whole tendon, thickened	0	Hyper-vascularized (increased numbers of small or larger capillaries)	0
<i>Degenerative changes/tissue metaplasia</i>		<i>Inflammation</i>	
Non existing	3	No inflammatory cell infiltrates	1
Moderate formation of oedema	2	Infiltrating inflammatory cell types (neutrophils, macrophages, foreign-body/giant cell)	0
Intense oedema with inclusion of fat, cell and/or fibres destruction, fibrin deposition, gaps	1		
Assembly of cartilage or bone (alcian blue-, von Kossa staining)	0		

pt; points.



**Supplementary Figure S1.** Masson tricolour staining of the coronal-sections of the regenerated defects at 1, 2 and 3 months. Newly formed Collagen fibres were visualized as blue and newly formed Myofibrils were visualized as red. From loose and disordered collagen fibres to dense, orderly rows of collagen fibres, showing a time dependency, n=4.