| C^{1} (1) | C_1 $($ $)$ | C1 (-2) | <u>C1</u> (1 | <u>C1</u> / 5 |
|---------------------------------|-------------------------|---------------------------|-------------------------|-------------------------------------|
| Cluster 1: | Cluster 2: | Cluster 3: | Cluster 4: | Cluster 5: |
| Animal study (54) | Tissue engineering (39) | Clinical study (30) | Mechanism research (50) | Stem cells research (40) |
| acl reconstruction | adhesion | achilles tendinopathy | activation | adipose tissue |
| allograft | alignment | achilles tendon | age-related-changes | adipose-tissue |
| animal model | biocompatibility | achilles-tendon | apoptosis | articular-cartilage |
| animal-models | biomaterials | achilles-tendon | connective-tissue | autologous chondrocyte implantation |
| anterior cruciate ligament | bioreactor | basic science | cytokines | bone marrow |
| arthroscopic repair | bone | biology | differentiation | bone regeneration |
| augmentation | cells | delivery | endothelial-cells | bone-marrow |
| autograft | collagen | double-blind | expression | cartilage |
| biomechanical properties | collagen sponge | endothelial growth-factor | extracellular matrix | cell therapy |
| | constructs | ~ | | |
| biomechanics | constructs | flexor tendon | extracellular-matrix | chondrocytes |
| bone morphogenetic protein-2 | cross-linking | gene therapy | fibroblasts | chondrogenesis |
| cruciate ligament | degradation | gene-transfer | gene | chondrogenic |
| reconstruction | C | C | C | differentiation |
| defect | electrospinning | growth factor | gene expression | culture |
| degeneration | engineered tendon | growth factors | gene-expression | defects |
| enhancement | fabrication | growth-factor-i | growth | digital flexor tendon |
| enthesis | fibers | growth-factors | identification | equine |
| | | | | |

Supplementary Table 4. The five clusters of keywords on tendon stem cells research from 1991 to 2020

| fatty infiltration | fibroblast-growth-factor | healing | inflammation | horse |
|-------------------------|---------------------------|--------------------------|----------------------------|--------------------------|
| follow-up | flexor tendons | heterotopic ossification | injury | horses |
| graft | hydrogel | injection | matrix | human adipose-tissue |
| grafts | in-vitro | management | mechanisms | human bone-marrow |
| growth-factor | ligament | pathogenesis | messenger-rna | implantation |
| growth-factor-beta | mechanical stimulation | platelet-rich plasma | mice | injuries |
| in-vivo | mechanical-properties | prp | migration | intraarticular injection |
| insertion | mechanobiology | rabbit achilles-tendon | muscle | marrow stromal cells |
| integrity | mechanotransduction | randomized controlled- | osteoblasts | mesenchymal stem cell |
| | | trial | | |
| knee | nanofiber scaffolds | repair | osteogenic differentiation | mesenchymal stem cells |
| marrow | nanofibers | tendinopathy | phenotype | mesenchymal stromal |
| | | | | cells |
| medial collateral | nanofibrous scaffolds | tendinosis | progenitors | osteoarthritis |
| ligament | | | | |
| mesenchymal stem-cells | scaffold | tendon healing | proliferation | osteogenesis |
| model | scaffolds | tendon injury | promotes | progenitor cells |
| morphogenetic protein-2 | silk scaffold | | protein | regenerative medicine |
| outcomes | tendon | | rat | stem cell |
| patellar tendon | tendon tissue engineering | | responses | stem cells |
| rabbit | tenogenic differentiation | | scleraxis | stromal cells |
| rabbit model | tissue | | scleraxis expression | tendinitis |
| rat model | tissue engineering | | self-renewal | tendon injuries |
| reconstruction | tissue regeneration | | stem-cells | tendon repair |

| regeneration | vitro | stem/progenitor cells | therapy |
|----------------------|-------|---------------------------|----------------------|
| rotator cuff | vivo | stimulation | transplantation |
| rotator cuff repair | | tenascin-c | umbilical-cord blood |
| rotator cuff tear | | tendon differentiation | |
| rotator cuff tears | | tendon regeneration | |
| rupture | | tendon stem cells | |
| satellite cells | | tendon stem/progenitor | |
| | | cells | |
| shoulder | | tendon-derived stem cells | |
| skeletal-muscle | | tendons | |
| small-intestinal | | tenocyte | |
| submucosa | | | |
| supraspinatus | | tenocytes | |
| supraspinatus tendon | | tenomodulin | |
| surgical repair | | tgf-beta | |
| tears | | | |
| tendon graft | | | |
| tendon-bone healing | | | |
| tunnel | | | |