Yusuf Yazici, MD

vs

inflammation in single injection

Rees JD, et al.

Maffulli was treating models

ANOVA the condition (SM04755 (1 mg/cm²)) on days 16 and 40. Significant, dose-related, increase in tenocyte numbers, increased tenocyte density, and increased tenocyte area were observed in the treatment group compared to the control group. The highest dose of SM04755 (10 mg/ml) resulted in the greatest increase in tenocyte numbers and area, which was reflected in the healing and regeneration of the tendon.

Figure 7. (a) Levels of circulating CXCL1 in peripheral blood following treatment as measured by ELISA. (b) Expression of pro-and anti-inflammatory genes in the tendon following sham or collagenase injection and treatment with either vehicle or SM04755 (0.3 mg/cm²) for 21 days as measured by qRT-PCR. Fold change relative to sham control is shown. n=6. Mean ± SEM, *p<0.05, **p<0.01, ***p<0.001 vs. vehicle.

SM04755 improved weight bearing after collagenase injection in vivo in collagenase model in rats

• In practical tendon injury models, topical SM04755 reduced inflammation, differentiated progenitor cells into myofibroblasts, inhibited fibrotic markers, increased tendon regeneration markers, and improved tendon structure micro- and macroscopically. Function improved as evidenced by weight bearing in the hindlimb by day 7.

• SM04755 demonstrated sustained tendon exposure, with minimal systemic exposure, in rats.

• SM04755 has potential as a therapeutic for chronic tendinopathy.

A Phase 1 trial with healthy volunteers is ongoing.

References