

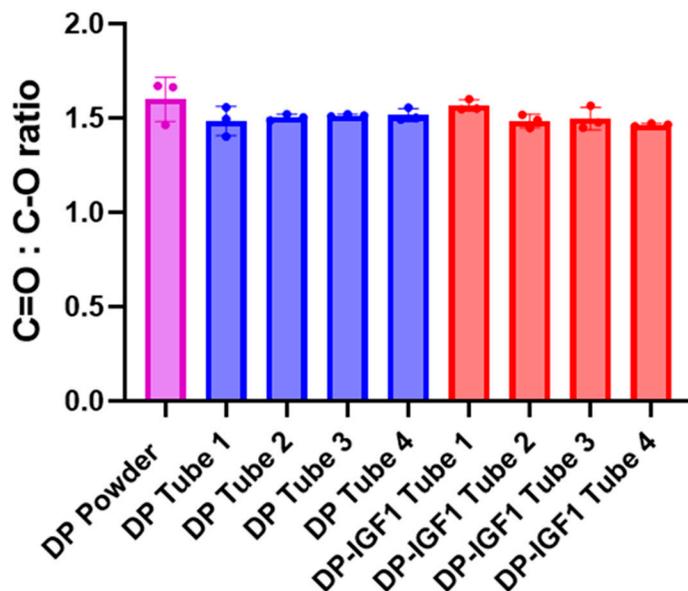
## Supporting Information

# Bioactive and Elastic Emulsion Electrospun DegraPol Tubes Delivering IGF-1 for Tendon Rupture Repair

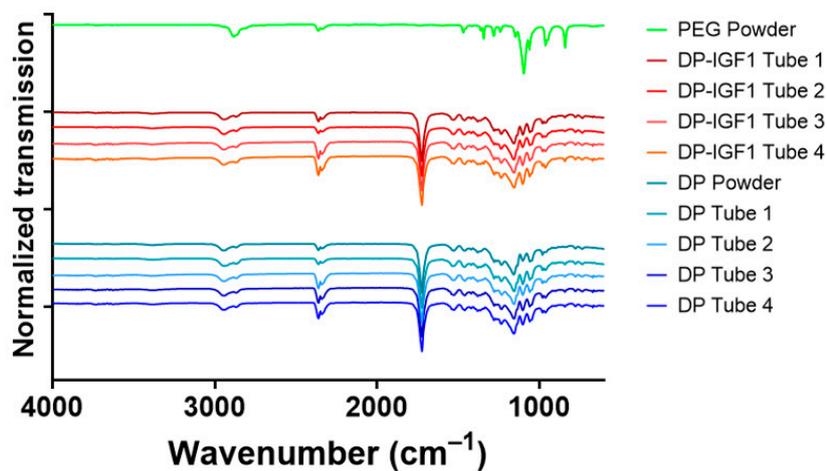
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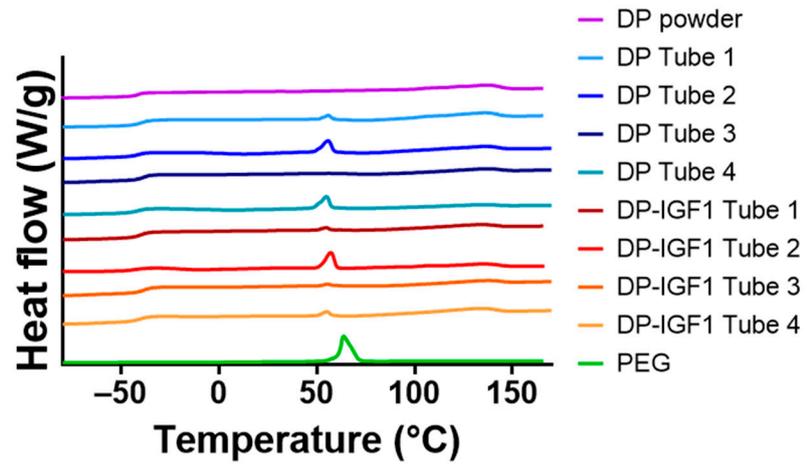
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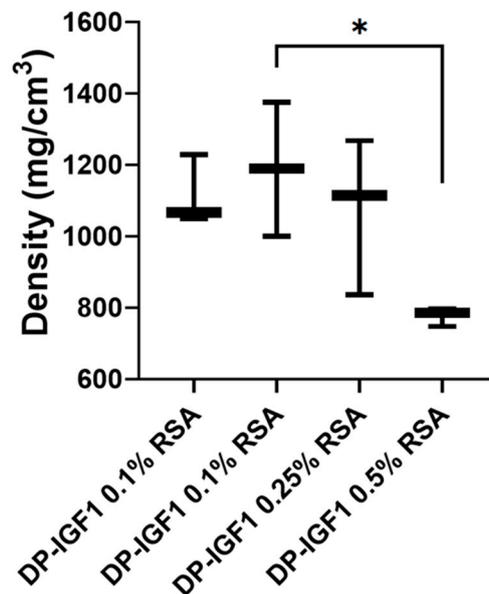
**Figure S1:** FTIR C=O to C-O band ratio assessed for DP powder, four pure DP tube and four DP tubes containing an emulsion electrospun layer with IGF-1. Data is shown as mean and SD with individual values, no significant difference in C=O : C-O ratio between individual tubes was detected with ANOVA.



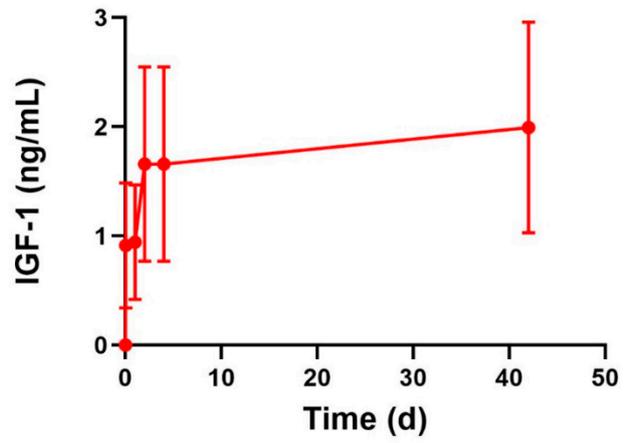
**Figure S2:** Further FTIR spectra, including the spectrum of pure PEG powder for comparison. For better comparability, the spectra are grouped in pure DP (bluish) and emulsion electrospun IGF-1 tubes (reddish).



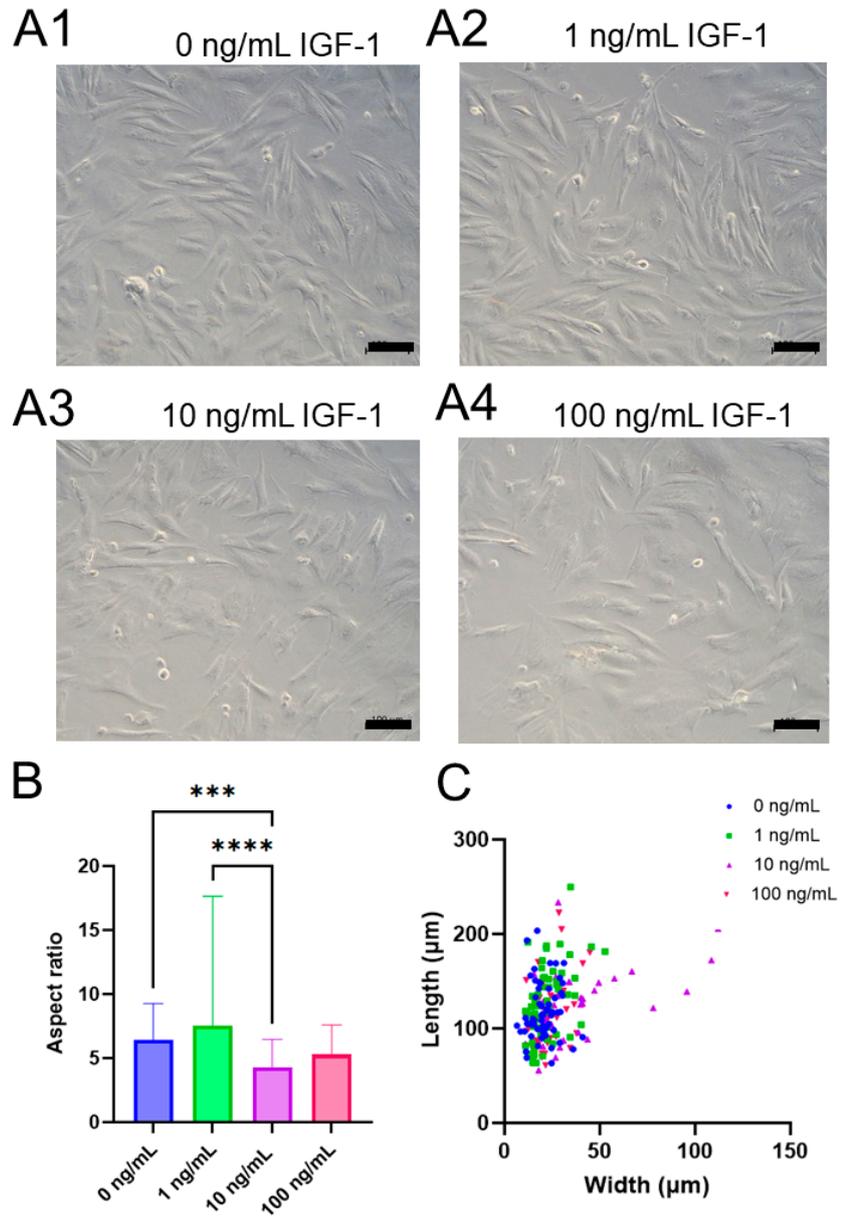
**Figure S3:** DSC measurements of DP and DP-IGF-1 tubes and pure PEG for comparison. For better comparability, the spectra are grouped in pure DP (bluish) and emulsion electrospun IGF-1 tubes (reddish).



**Figure S4:** Density of electrospun meshes. Tubes 1 and 2 both had the same composition with 0.1 % RSA to stabilize IGF-1, while tube 3 included 0.25 % RSA and tube 4 0.5 % RSA, respectively. Data is shown as box and whisker plots with interquartile range and 95 % confidence interval. Significant difference between 0.1 % RSA tube 2 and 0.5 % RSA was found with one-way ANOVA. p-values < 0.05 were considered significant (\*).



**Figure S5:** The IGF-1 release curve over 42 days. As can be seen, sustained release of IGF-1 up to 6 weeks can be achieved.



**Figure S6:** Aspect ratio. Rabbit Achilles tenocyte cell culture on day 3 after supplementation with IGF-1 at 1, 10 and 100 ng/mL, respectively, and control (0 ng/mL IGF-1). Microscopic images of respective conditions (**A1-A4**); aspect ratio (length: width) (**B**) and size distribution for the four conditions in a plot length versus width (**C**). p-values were considered significant if  $p < 0.05$ ; with  $p < 0.001$  (\*\*\*) and  $p < 0.0001$  (\*\*\*\*).