Supporting Information for

Diabetic wound regeneration using glycosaminoglycan-mimetic peptide amphiphile gel in db/db mice

Berna Senturk[a], Burak M. Demircan[b], Alper D. Ozkan[a], Sehmus Tohumeken[a], Tuncay Delibasi[c,d,]*,

Mustafa O. Guler[a,e,]*, Ayse B. Tekinay[a,b,]*

[a]*Institute of Materials Science and Nanotechnology, National Nanotechnology Research Center (UNAM), Bilkent University, Ankara 06800, Turkey.*

[b]*Neuroscience Graduate Program, Bilkent University, Ankara, 06800, Turkey*

[c]*ADACELL Cell Therapy, Regenerative Medicine and Research Hospital Etlik Polyclinic, Department of Endocrinology and Metabolism, Ankara, 06010, Turkey.*

[d]*Department of Internal Medicine, School of Medicine (Kastamonu), Hacettepe University, Ankara, 06100, Turkey.*

[e]*Institute for Molecular Engineering, University of Chicago, Chicago, IL 60637 USA*

 *Corresponding authors' e-mail addresses: tuncay@delibasi.net (T.D); mguler@uchicago.edu (M.O.G.); atekinay@bilkent.edu.tr (A.B.T.)
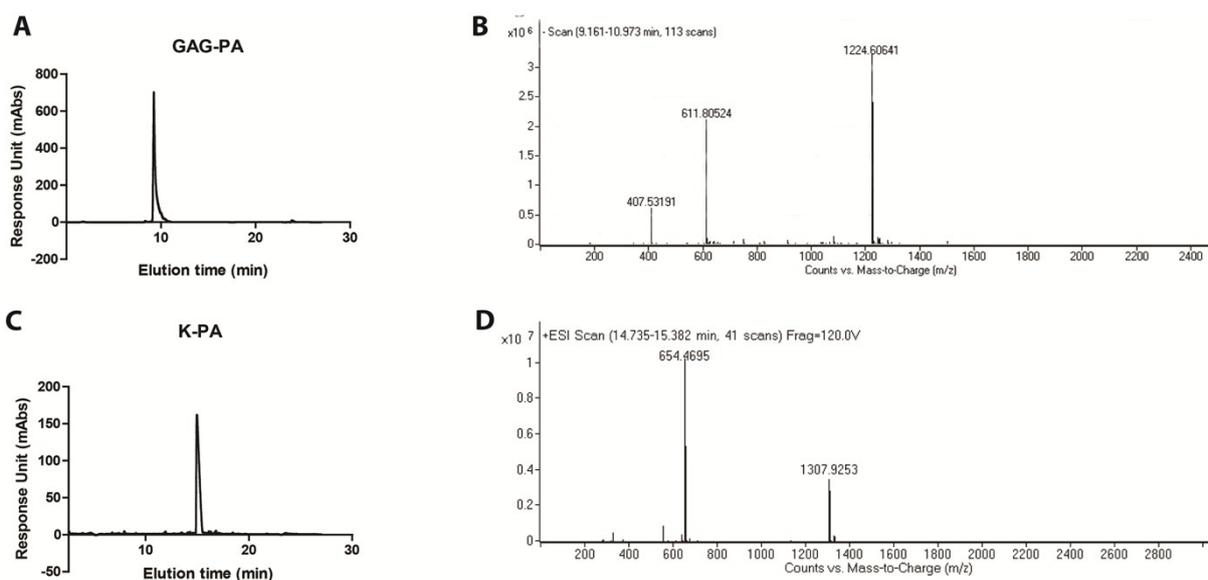
Figure. S1. Liquid Chromatography and mass spectroscopy (LC-MS) of PA molecules used. HPLC chromatogram of purified GAG-PA (A) and K-PA (C) molecule at 220 nm. Mass spectra of peptides;

for GAG-PA [M-H]$^-$ (calculated) = 1224.80, [M-H]$^-$ (observed) = 1224.60, [M/2-H]$^-$ (calculated) = 611.80, [M/2-H]$^-$ (observed) = 611.80, [M/3-H]$^-$ (calculated) = 407.53, [M/3-H]$^-$ (observed) = 407.53 (B), for K-PA [M+H]$^+$ (calculated) = 653.89, [M+H]$^+$ (observed) = 654.46, [2M+H]$^+$ (calculated) = 1308.76, [2M+H]$^+$ (observed) = 1307.92 (D).
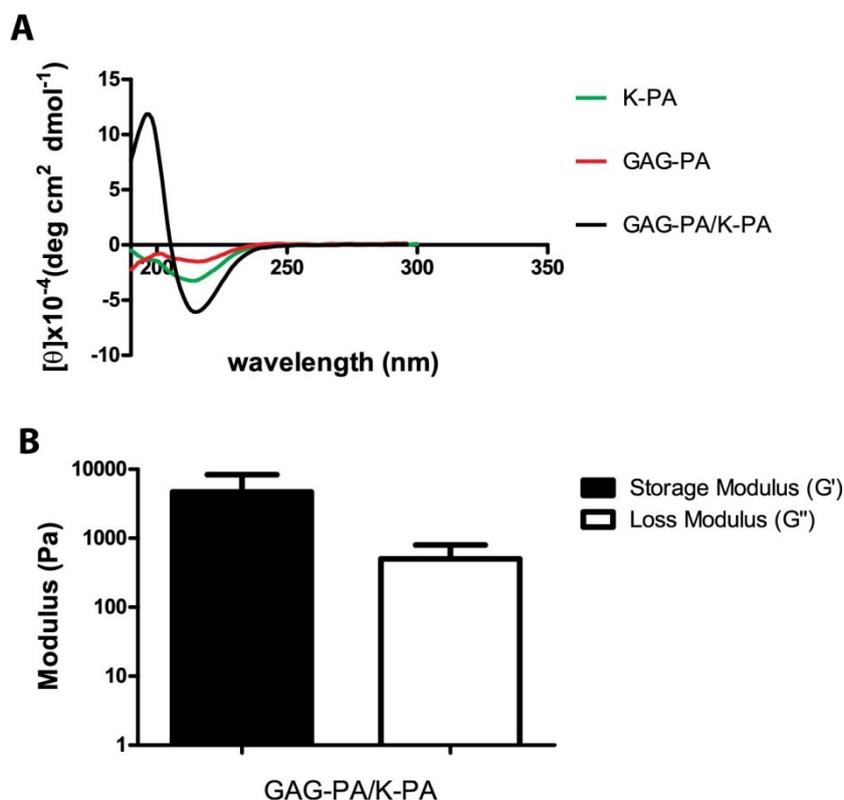

Figure S2. Characterization of peptide amphiphiles by circular dichroism (CD) and oscillatory rheology. CD analysis showed that GAG-PA/K-PA contain β-sheet secondary structure (A). Oscillatory rheology measurement was performed for investigation of physical characteristics of the PA assembly. Storage modulus is higher than loss modulus also indicated gel characteristic of GAG-PA/K-PA nanofibers (B).
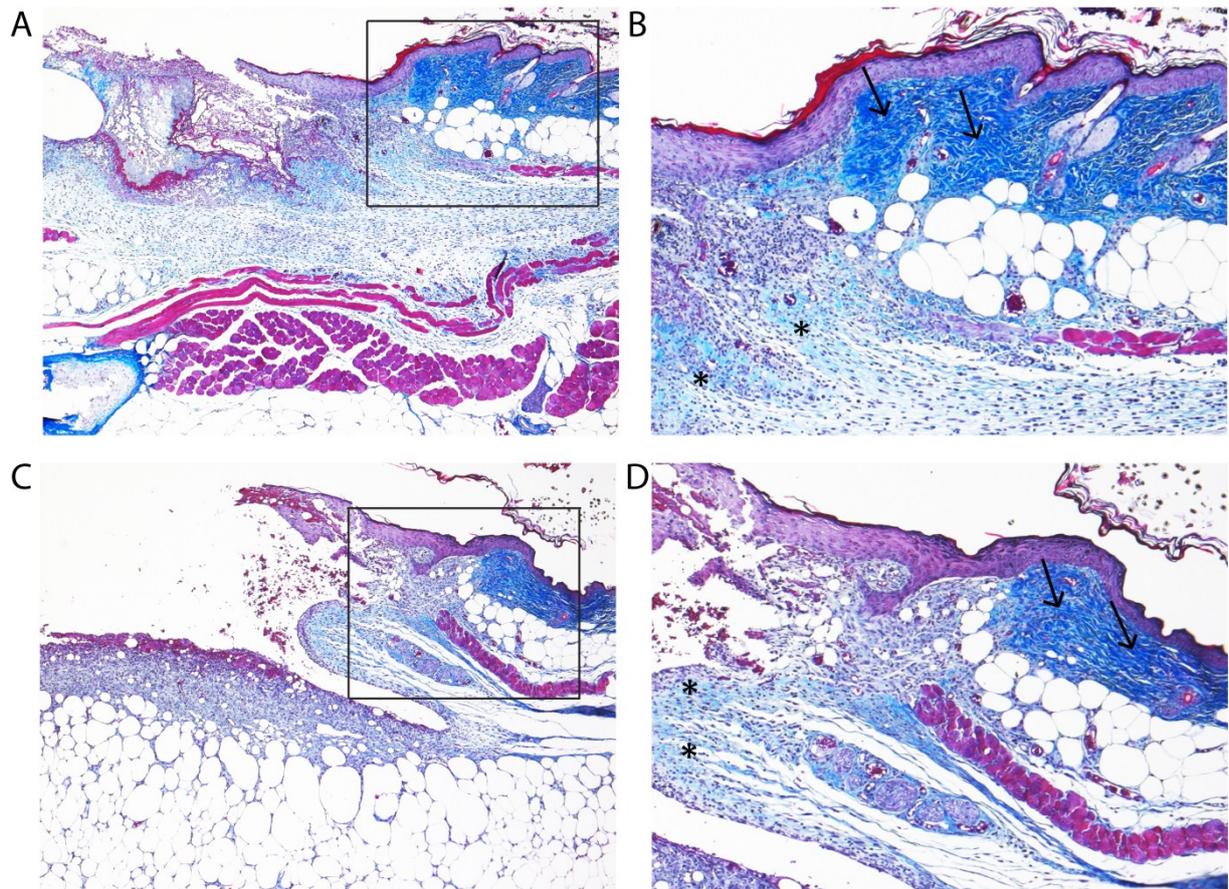
Figure S3. Masson's trichrome staining of skin tissue sections at day 7. GAG-PA/K-PA gel treated tissue section (A, larger view B), and PBS control (C, larger view in D). While collagens tissue stained with blue color, red color identifies keratin and muscle fibers. Arrows indicate dark blue stained type I collagen and asterisks indicate light blue stained type III collagen in the wound area.