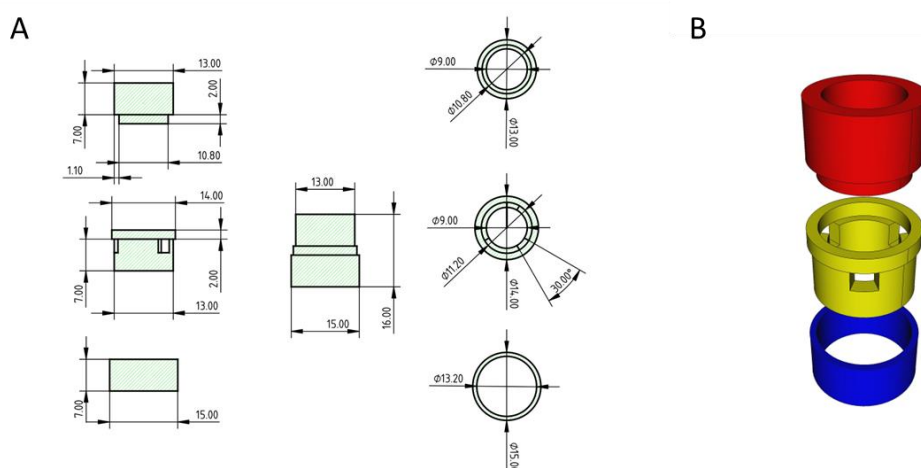


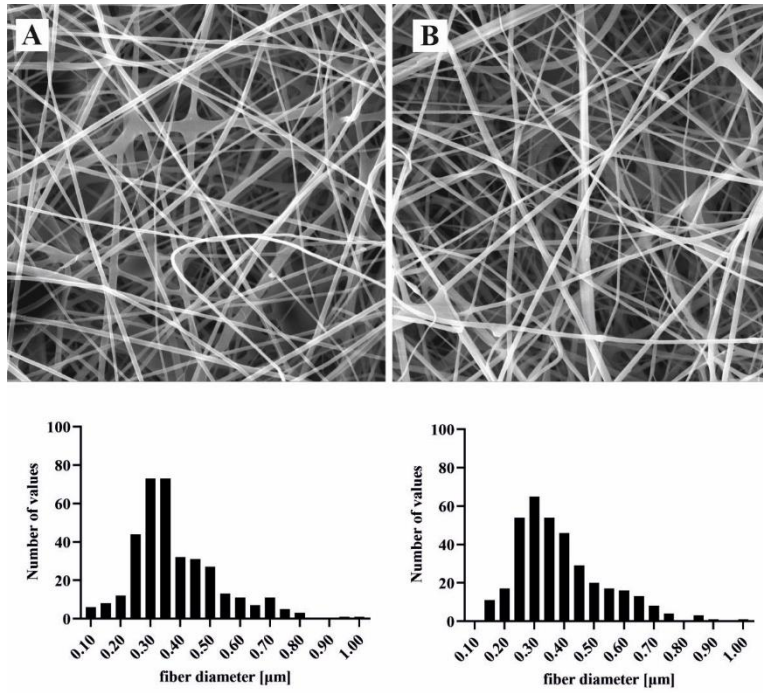
## Supplementary information

### A novel bifunctional multilayered nanofibrous membrane combining polycaprolactone and poly (vinyl alcohol) enriched with platelet lysate for skin wound healing

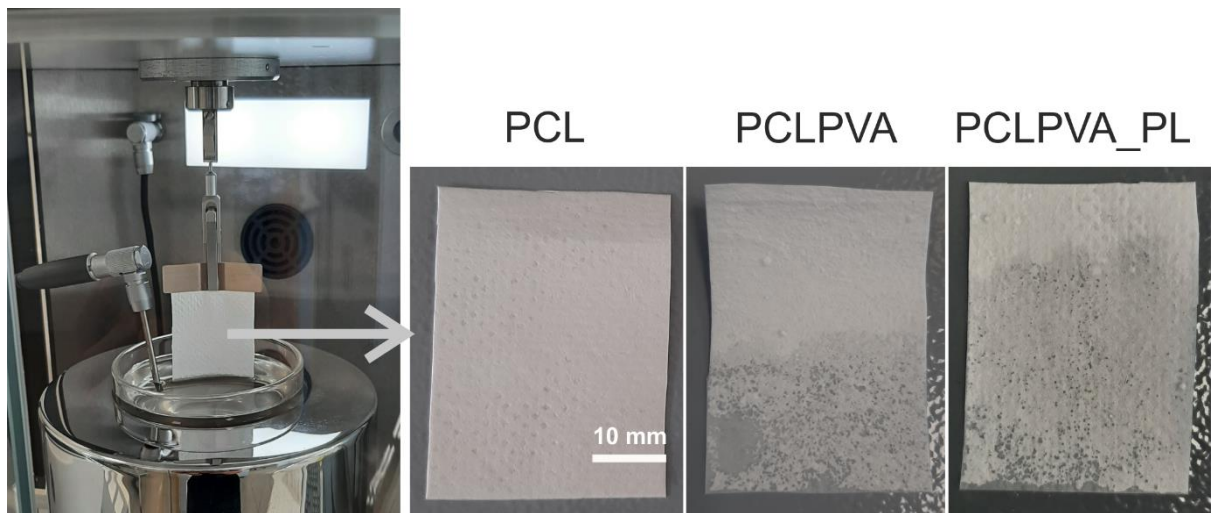
Andreu Blanquer<sup>1,2\*</sup>, Eva Kuzelova Kostakova<sup>3</sup>, Elena Filova<sup>1</sup>, Maxim Lisnenko<sup>3</sup>, Antonin Broz<sup>1</sup>, Jana Mullerova<sup>3,4</sup>, Vit Novotny<sup>4</sup>, Kristyna Havlickova<sup>3</sup>, Sarka Jakubkova<sup>5</sup>, Sarka Hauzerova<sup>3</sup>, Bohdana Heczkova<sup>5</sup>, Renata Prochazkova<sup>5,6</sup>, Lucie Bacakova<sup>1</sup>, Vera Jencova<sup>3</sup>



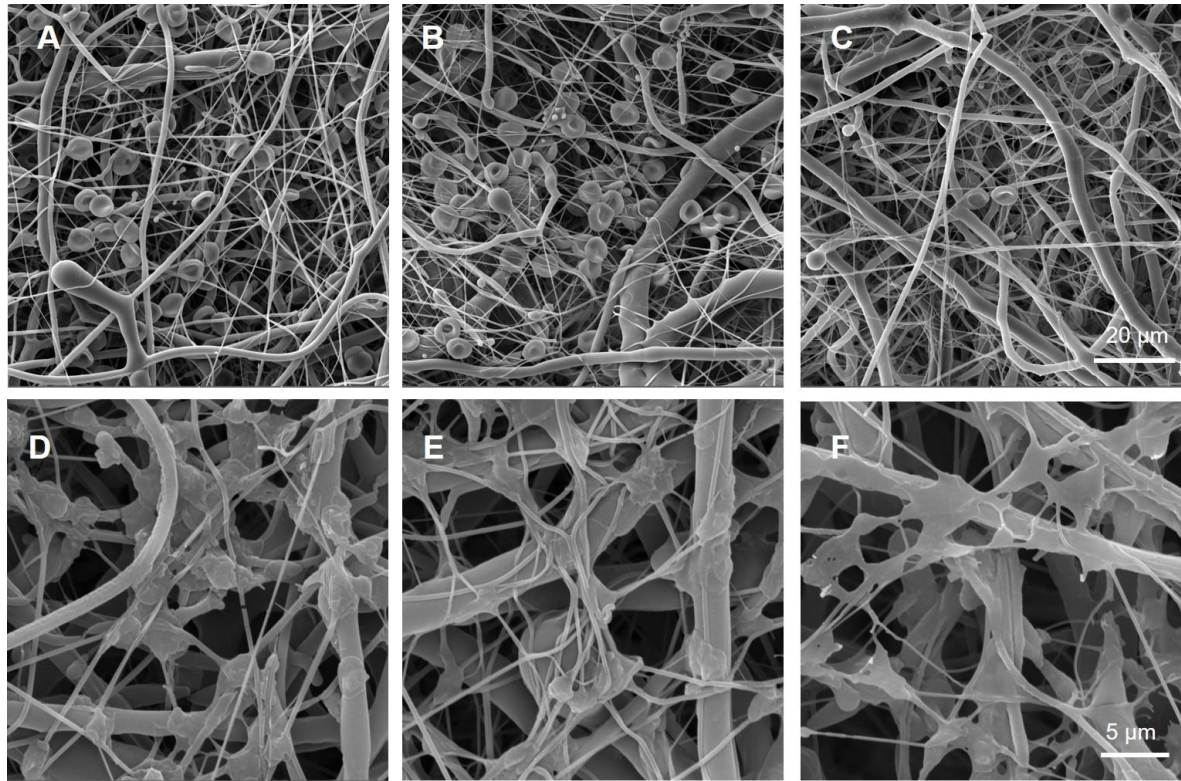
**Figure S1.** 3D model of the insert for the co-culture of cells on both sides of nanofibrous membranes. Insert design with sizes and structure (A) and a scheme model of the 3D insert that was obtained (B).



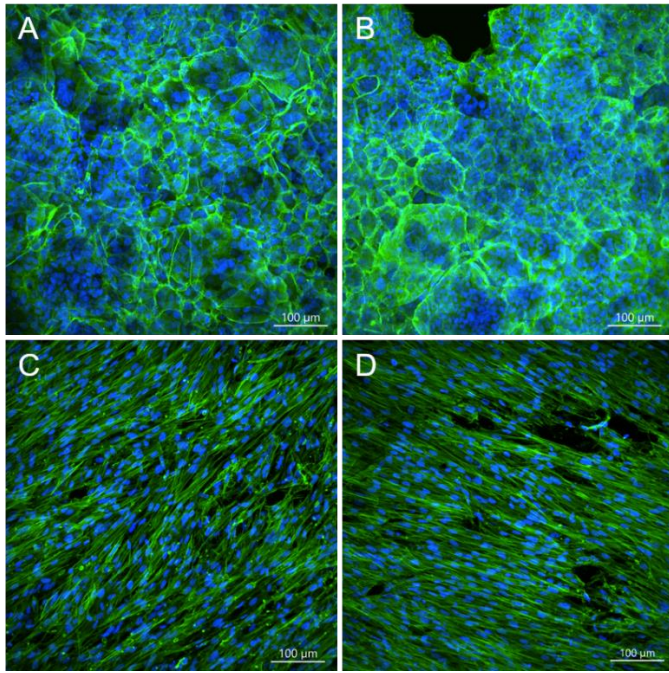
**Figure S2.** Representative SEM micrographs and corresponding fiber diameter distributions ( $n=360$ ) of electrospun materials: PVA (A), PVA+PL (B). Scale bar 10  $\mu\text{m}$  (magnification 5000x).



**Figure S3.** Example of a sample during water wettability measurements and three examples of nanofibrous layers from different materials immediately after measurement.



**Figure S4.** Hemocompatibility of DC electrospinning prepared multilayers: SEM pictures of the material after incubation with diluted whole blood - PCL (A), PCL-PVA (B) and PCL-PVA+PL (C) (scale bar 20  $\mu\text{m}$ ); SEM pictures of the material after 2h incubation with platelets - PCL (D), PCL-PVA (E) and PCL-PVA+PL (F) (scale bar 5  $\mu\text{m}$ ).



**Figure S5.** HaCaT cells (A, B) and NHDFs (C, D) co-cultured on PCL-PVA+PL (A, C) and PCL-PVA (B, D) nanofibrous membranes for 7 days after cell seeding. Images of cells stained with phalloidin-Atto488 (green) and Hoechst (blue); spinning disk confocal microscope equipped with a Zyla 4.2 PLUS sCMOS camera.