Supplementary Data to the manuscript:

Silk based scaffolds with immunomodulatory capacity: anti-inflammatory effects of nicotinic acid

Abdollah Zakeri Siavashani¹, Javad Mohammadi²*, Katharina Maniura-Weber¹, Berna Senturk¹, Jhamak Nourmohammadi², Behnam Sadeghi³, Lukas Huber⁴, Markus Rottmar ¹*

¹ Empa, Swiss Federal Laboratories for Materials Science and Technology, Biointerfaces, St.Gallen, Switzerland.
² Faculty of New Sciences and Technologies, University of Tehran, Tehran, Iran.
³ Translational Cell therapy Research (TCR), Department of CLINTEC, Karolinska Institutet, Stockholm, Sweden.
⁴ Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Building Energy Materials and Components, Dübendorf, Switzerland.

Supplementary Fig. S1. Krypton gas adsorption–desorption isotherm of cross-linked silk scaffold (three times measurement per sample).
Supplementary Fig. S2. Metabolic activity (%) of MG63 cells in medium supplemented with different concentrations of nicotinic acid was measured using a PrestoBlue assay. (A) After 1 day of seeding. (B) After 3 days of seeding (±SD, n=3).

Supplementary Fig. S3. Confocal images of MG63 cells seeded on the scaffolds after 7 days of culture stained for actin filaments (green) and cell nuclei (blue). Scale bars = 100 µm.

Supplementary Fig. S4. Relative gene expression of pro-inflammatory markers TNF-α, CXCL10 and CD197 in response to medium supplemented with different concentrations of nicotinic acid. Expression levels ±SD were normalized to Mφ macrophages seeded in drug-free medium (TCP (Mφ)). RPL37a was used as a housekeeping gene. n=3 (****p< 0.0001, ***p< 0.001, **p< 0.01).
**Supplementary Fig. S5.** Total DNA content after 1 day of seeding M1-like macrophages on the scaffolds was measured using a Hoechst assay. (±SD, n = 3)

**Supplementary Fig. S6.** Relative gene expression of anti-inflammatory marker IL-10 in response to different concentrations of nicotinic acid in the scaffolds (SNP) and in the medium (NA). Expression levels ±SD were normalized to Mφ macrophages. RPL37a was used as a housekeeping gene (n=3).