

The Regeneration of Large-Sized and Vascularized Adipose Tissue Using a Tailored Elastic Scaffold and dECM Hydrogels

Su Hee Kim^{1,2,†}, Donghak Kim^{1,3,†}, Misun Cha², Soo Hyun Kim^{1,3,4,*} and Youngmee Jung^{1,5,*}

¹ Biomaterials Research Center, Korea Institute of Science and Technology (KIST), 5, Hwarang-ro 14-gil, Seongbuk-gu, Seoul 02792, Korea; sweess@imedifab.com (S.H.K.); cherish7693@korea.ac.kr (D.K.)

² R&D Center, Medifab Co. Ltd., 70 Dusan-ro, Geumcheon-gu, Seoul 08584, Korea; cmsbest@imedifab.com

³ KU-KIST Graduate School of Converging Science and Technology, Korea University, 145 Anam-ro, Seongbuk-gu, Seoul 02841, Korea

⁴ Korea Institute of Science and Technology (KIST) Europe, Campus E 7.1, 66123 Saarbrücken, Germany

⁵ School of Electrical and Electronic Engineering, YU-KIST Institute, Yonsei University, Seoul 03722, Korea

* Correspondence: soohkim@kist.re.kr (S.H.K.); winnie97@kist.re.kr (Y.J.)

† These authors contributed equally to this paper.

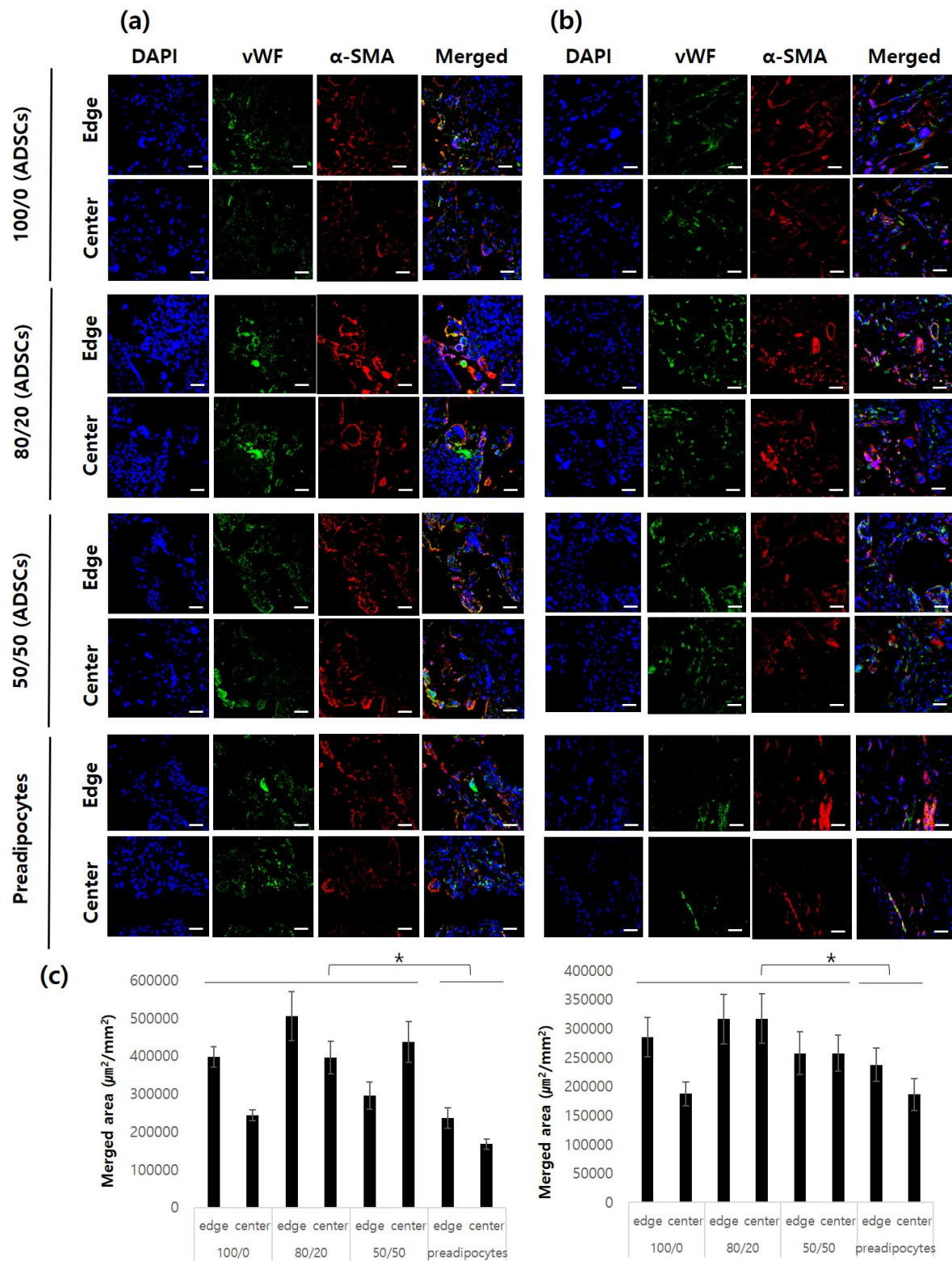


Figure S1. Angiogenesis in constructs. (a) Representative immunostaining of endothelial cells (ECs) and smooth muscle cells (SMCs) in each group at 4 and (b) 12 weeks after implantation. (c) Quantification of the merged area of the vWF⁺ and α -SMA⁺ vessels ($\mu\text{m}^2/\text{mm}^2$). Scale bar: 100 μm (* $p < 0.05$).

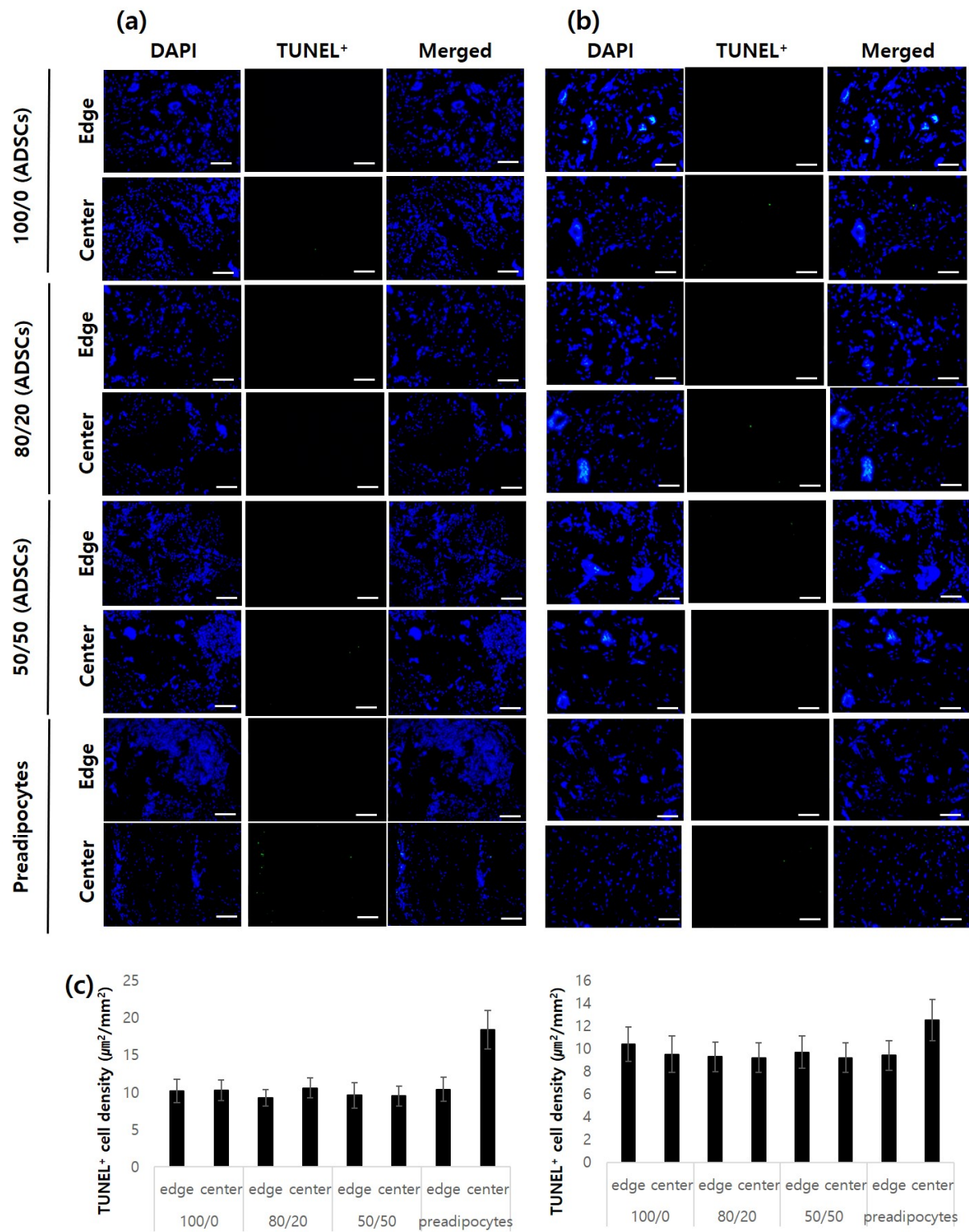


Figure S2. Apoptosis of seeded cells in constructs. **(a)** Representative immunostaining of apoptotic cells in each group at 4 and **(b)** 12 weeks after implantation. **(c)** Quantification of the stained area ($\mu\text{m}^2/\text{mm}^2$). Scale bar: 100 μm (* $p < 0.05$).