

Supporting Information

Highly Water-Preserving Zwitterionic Betaine-incorporated Collagen Sponges with Anti-oxidation and Anti-inflammation for Wound Regeneration

Anqi Chen^{1†}, Ying An^{1†}, Wen Huang¹, Tengxiao Xuan¹, Qianwen Zhang^{2,3}, Mengqi Ye²,
Sha Luo², Xuan Xuan³, Huacheng He^{2*}, Jie Zheng^{4,5*}, Jiang Wu^{1*}

¹School of Pharmaceutical Sciences
Key Laboratory of Biotechnology and Pharmaceutical Engineering
Wenzhou Medical University, Wenzhou, 325035, China

²College of Chemistry and Materials Engineering
Wenzhou University, Wenzhou, 325027, China

³Department of Dermatology
The First Affiliated Hospital of Wenzhou Medical University, Wenzhou, 25000, China

⁴Department of Chemical, Biomolecular, and Corrosion Engineering
The University of Akron, OH, 44325, USA

⁵Department of Polymer Engineering
The University of Akron, OH, 44325, USA

#These authors contributed equally to this work.

* Corresponding Author: hehc@wzu.edu.cn (HH); zhengj@uakron.edu (JZ);
woody870402@hotmail.com (JW)

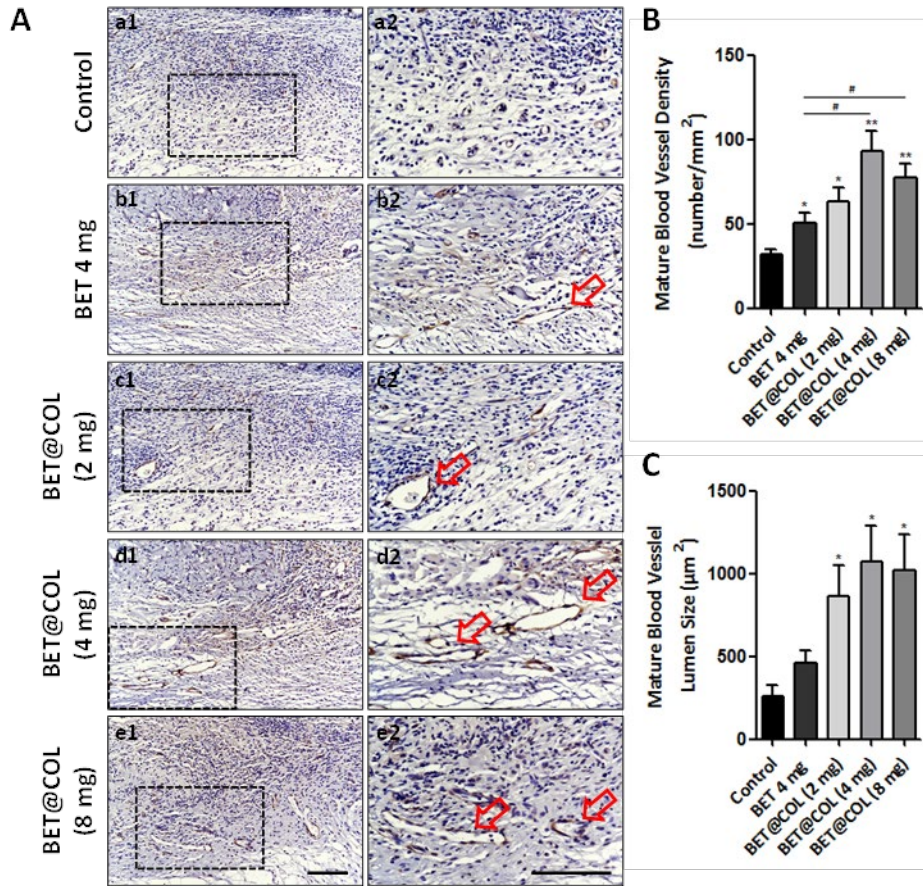


Figure S1. BET@COL wound dressing enhances vascular regeneration and maturation. (A) Representative images of immunohistochemical staining of α -SMA (α -smooth muscle actin) for the control group, free betaine solution (4 mg), and BET@COL (2 mg, 4 mg and 8 mg) groups on day seven. Red arrows indicate mature blood vessels with large lumen sizes. Scale bars = 100 μ m. (B) Quantitative results of the mature blood vessel density (number/mm²) for (A). n = 3. (C) Quantitative results of the mature blood vessel lumen size (μ m²) for (A). n > 3. BET: betaine. COL: collagen. Statistical differences were performed using ANOVA. ** p < 0.01, * p < 0.05, compared to control group, # p < 0.05.