Supporting Information

Sundew-inspired Adhesive Hydrogels combined with Adipose Derived Stem Cells for Wound Healing

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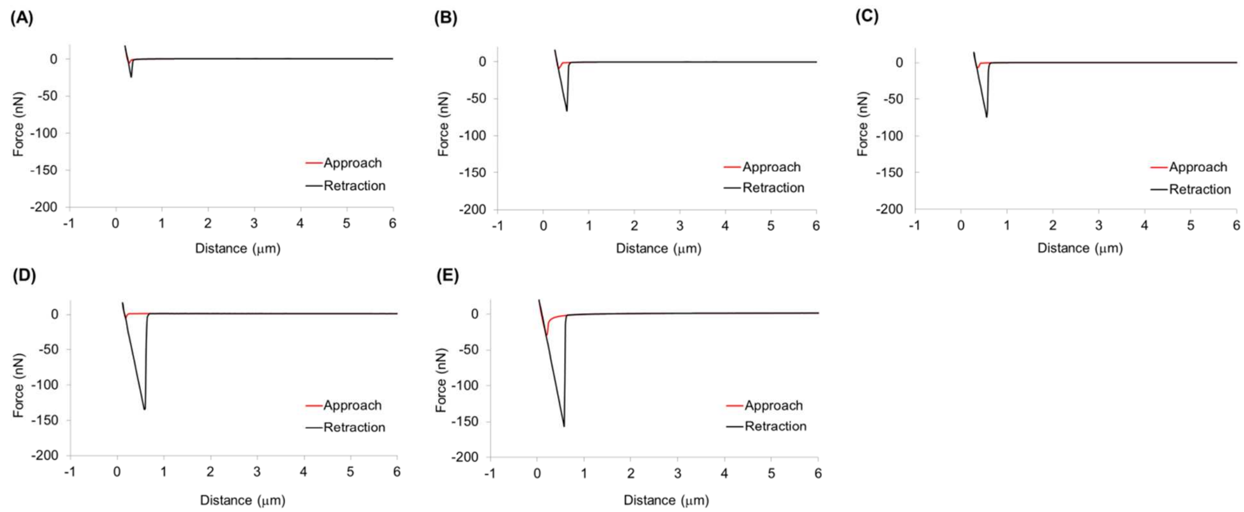

Figure S1. Adhesive forces of different samples measured by AFM. Force curves of (A) bare coverslip, (B) gum arabic, (C) sodium alginate, (D) S1G1, and (E) S1G1Ca10 measured by AFM. Sundew-inspired adhesive hydrogels S1G1Ca10 show the highest adhesive performance compared to all the other samples. It is consistent with the lap-shear tests for adhesive properties.

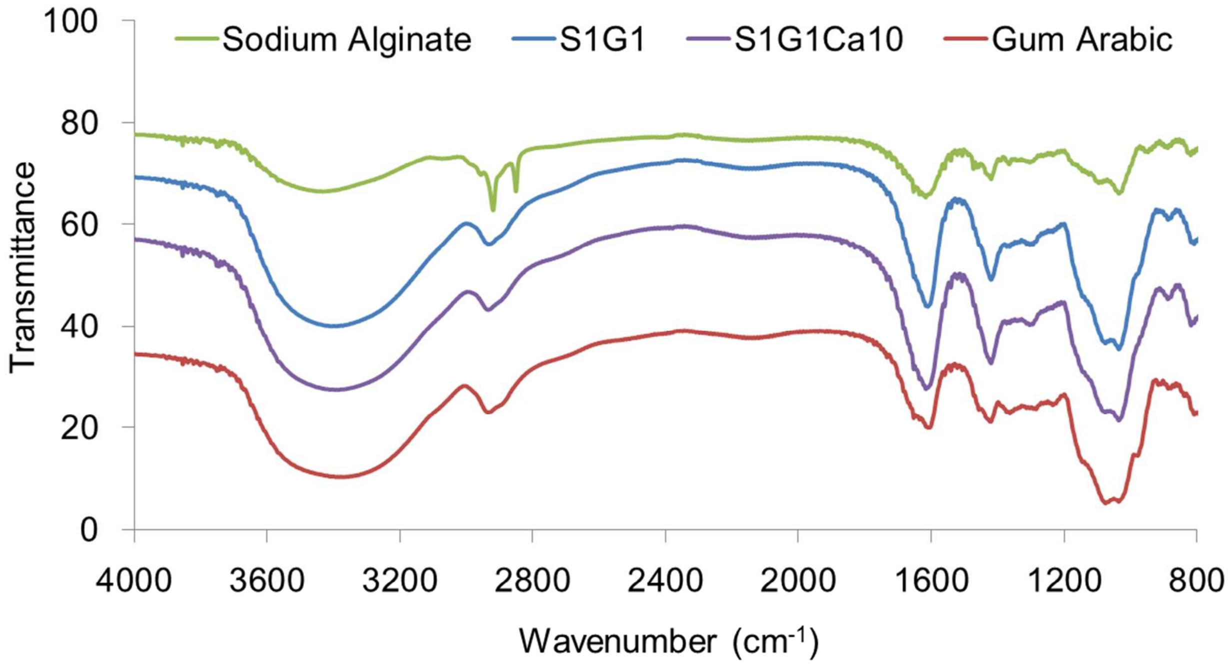

Figure S2. FTIR results of the sodium alginate, gum arabic, S1G1, and S1G1Ca10. The result shows typical spectral features of sundew-inspired adhesive hydrogels from both of sodium alginate and gum arabic respectively.

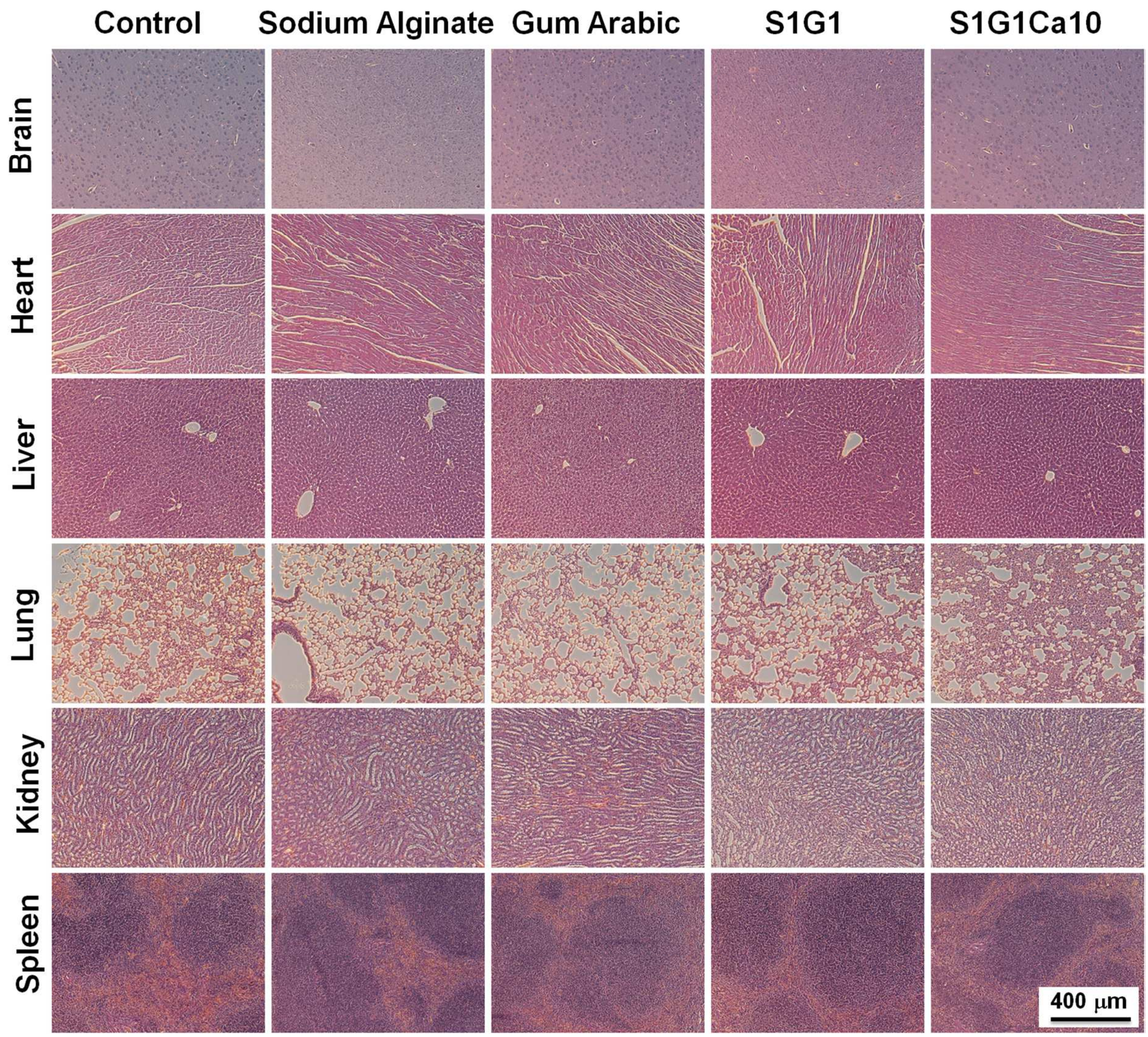

Figure S3. Evaluation of organs (brain, heart, liver, lung, kidney, and spleen) toxicities by H&E staining showed no pathological changes in histology for all of the samples. The result reveals that there are no significant signs of toxicity, which further supports biocompatibility of sundew-inspired adhesive hydrogels for wound healing applications.

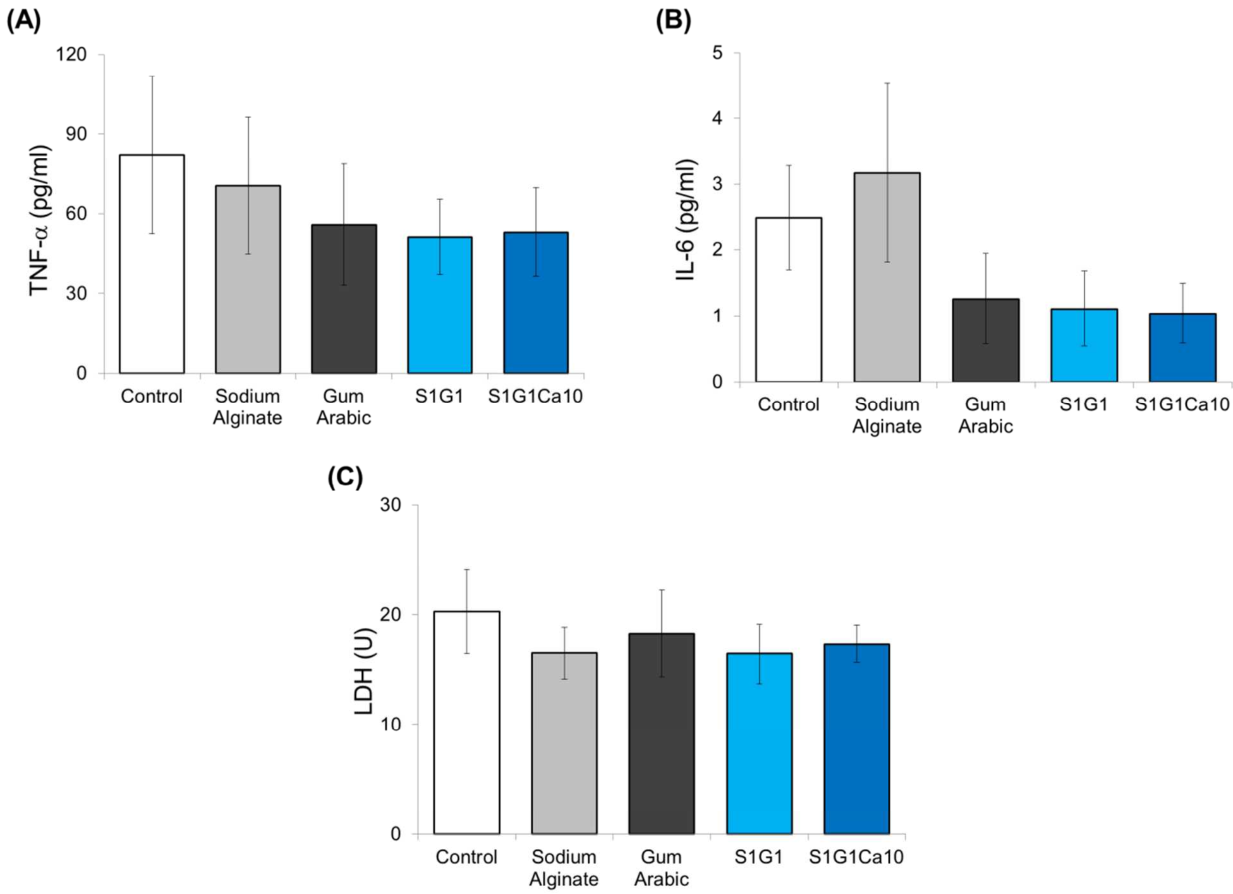

Figure S4. The analysis of inflammatory factors TNF-α (A), IL-6 (B), and the tissue injury marker LDH (C) expressed by control, gum arabic, sodium alginate, S1G1, and S1G1Ca10. The results from (A) and (B) show that the repetitive application of sundew-inspired adhesive hydrogels S1G1Ca10 does not induce chronic inflammation compared to the control as well as the other samples. The level of tissue injury marker LDH (C) is within normal range and do not have significant differences for all of the samples and the control groups.

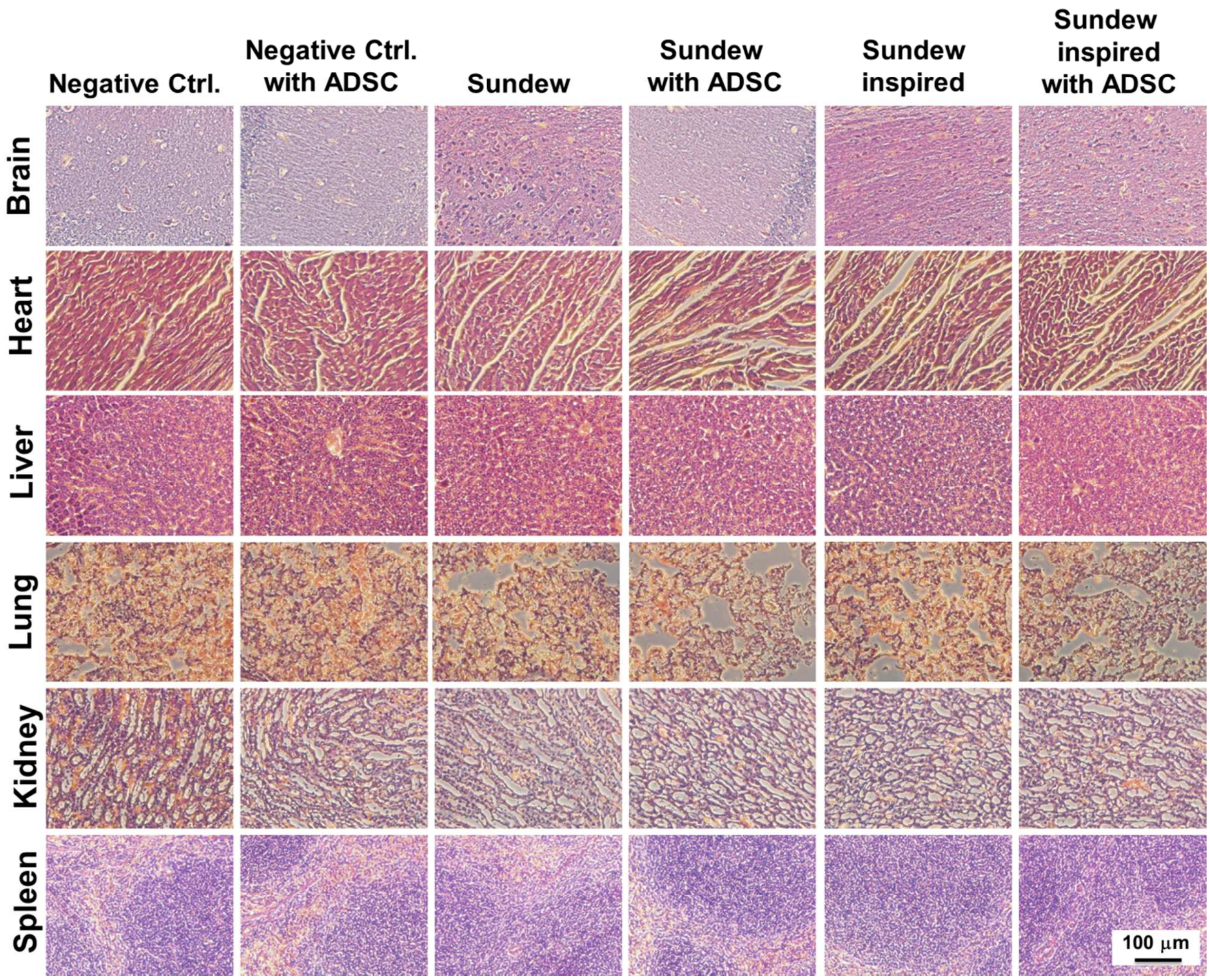

Figure S5. Evaluation of organs (brain, heart, liver, lung, kidney, and spleen) toxicities by H&E staining showed no pathological changes in histology for all of the samples. The result reveals that there are no significant signs of toxicity for all of the samples. This further supports the biocompatibility of sundew-derived and sundew-inspired adhesive hydrogels combined with ADSCs for wound healing applications.