

## **Ultrasound enhanced synthetic platelet therapy for augmented wound repair**

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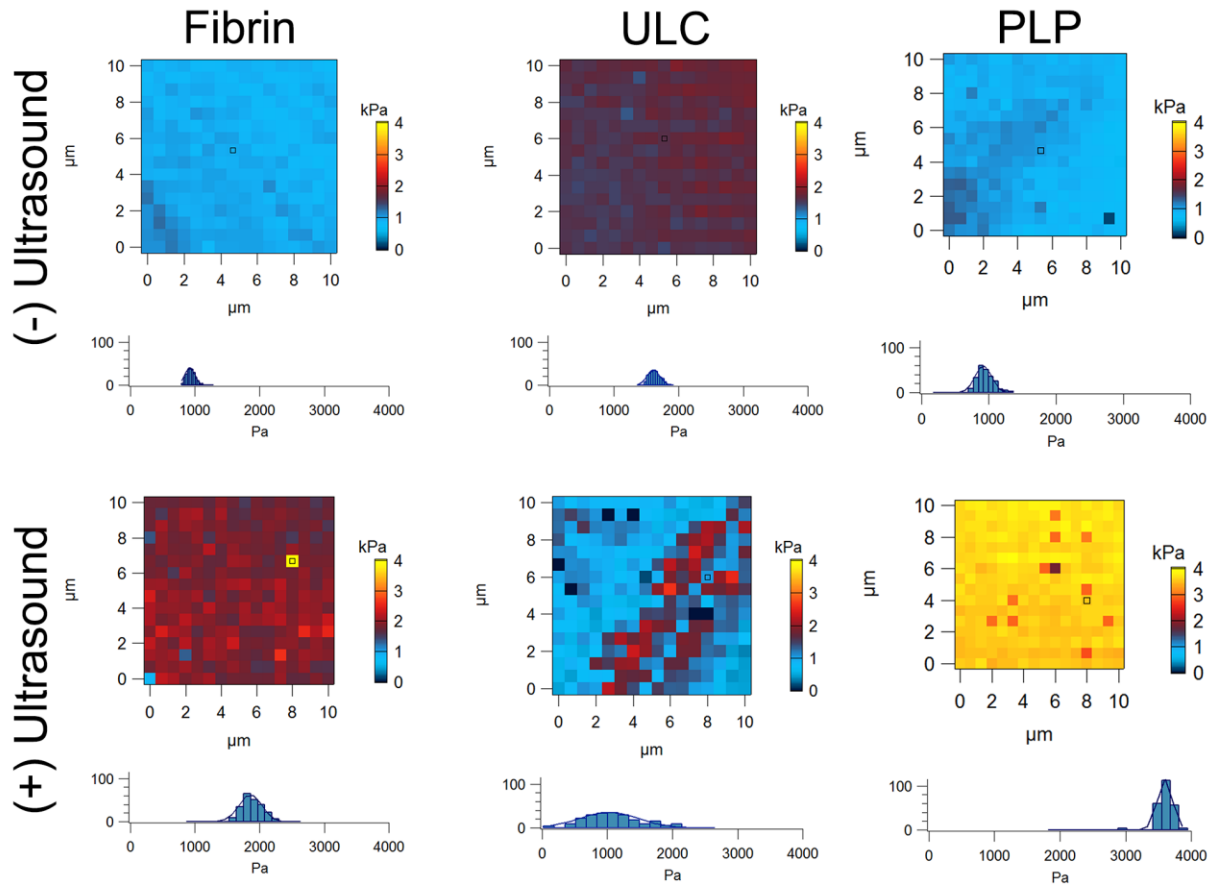
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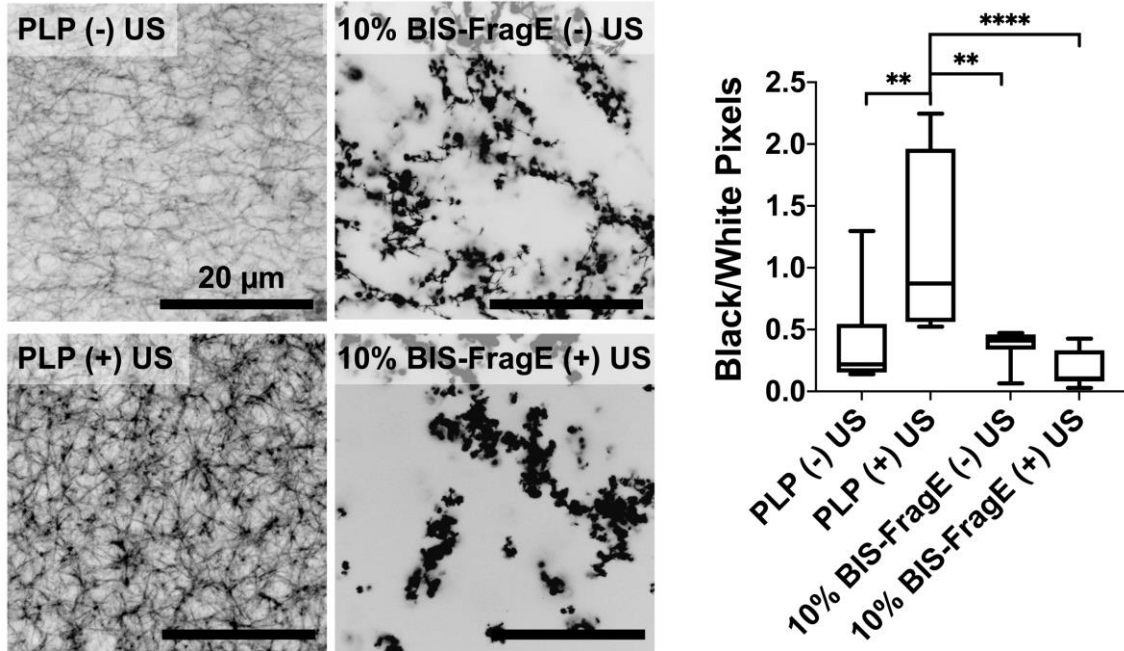
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**Contents:** Five Supplemental Figures

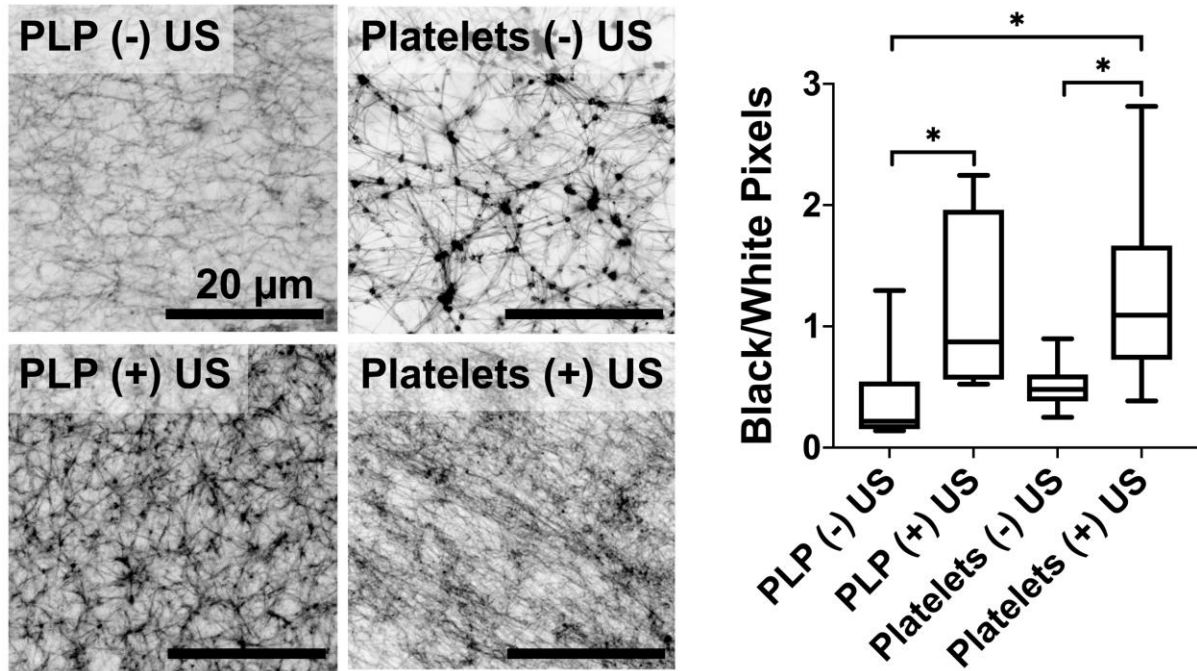


**Figure S1: Representative force maps of fibrin clots in the presence or absence of ultrasound.**

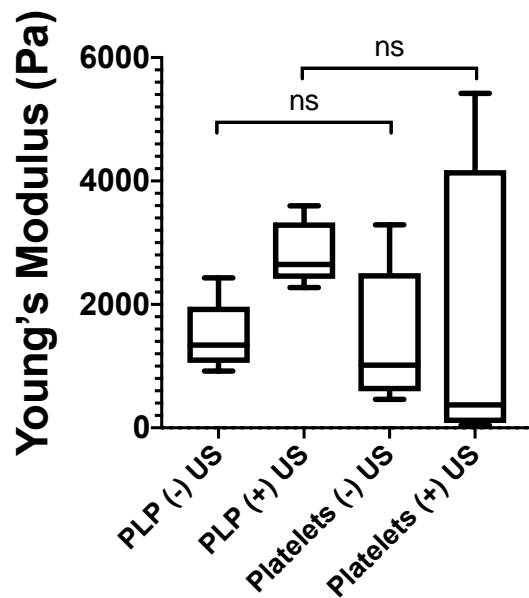
Clots containing PLPs and exposed to ultrasound show higher stiffness values when measured via atomic force microscopy nanoindentation than all other clot groups 2 hours after initial clot formation.  $n = 3$  clots per group with 3 random locations imaged per clot.



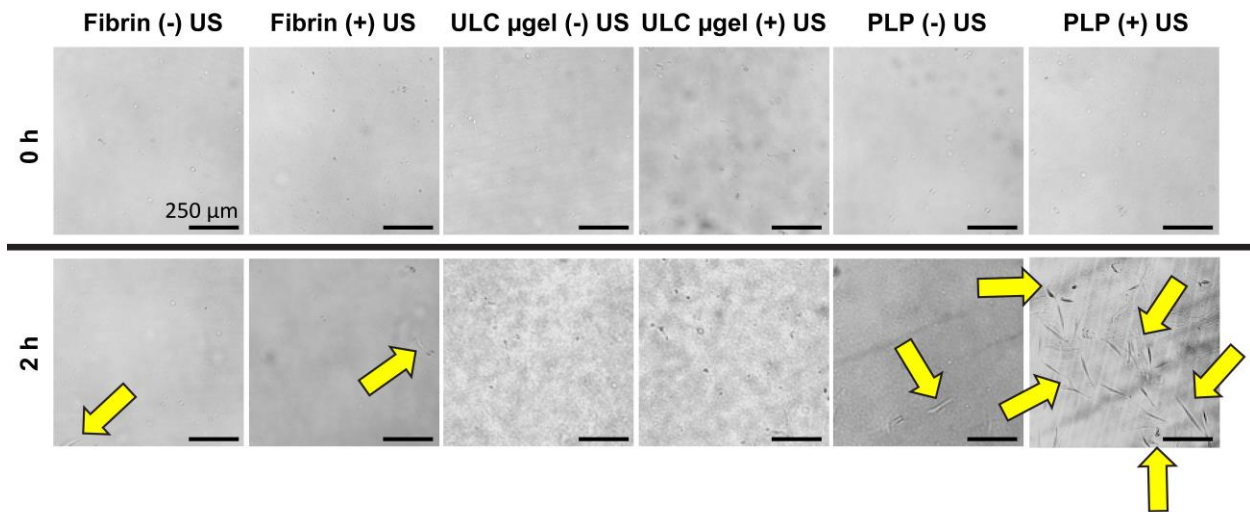
**Figure S2: Comparison of PLP + US and hard (10% BIS) fibrin-targeting particle effects on clot density.** PLPs + US result in increased clot network density over both PLPs alone and fibrin-targeting hard particles with or without the addition of ultrasound stimulation. n = 3 clots/group, 3 random z-stacks imaged/clot. \*\*p < 0.01; \*\*\*\*p < 0.0001.



**Figure S3: Comparison of PLP + US and native platelet effects on clot density.** PLPs + US result in increased clot network density over both PLPs alone and platelets alone, while resulting in similar clot network densities in comparison to native platelets + US. n = 3 clots/group, 3 random z-stacks imaged/clot. \*p < 0.05.



**Figure S4: Comparison of PLP + US and native platelet effects on clot stiffness.** No significant differences were observed between clot stiffness in clots containing PLPs vs. clots containing native platelets.  $n = 3$  clots/group, 3 random locations imaged/clot, 256 force curves obtained/image. ns:  $p > 0.05$ .



**Figure S5: Representative images of “wounded” area in fibroblast migration assay.** At  $t = 0$  hours after clot application, no cells were observed in the wound area. At  $t = 2$  hours after clot application, groups treated with combinatorial PLPs + US displayed greater fibroblast presence within the provisional clot matrix relative to control groups treated with fibrin-only clots or fibrin clots containing non-fibrin targeting ULC microgels, which contained very few cells (marked with arrows) within the applied provisional clot matrices.  $n = 6$  per condition.