

Supplementary Data

High molecular weight (hMW) HA (hyaluronic acid sodium salt from rooster comb, ~1-4 MDa) (Sigma-Aldrich) and low molecular weight (lMW) HA (hyaluronic acid sodium salt from *Streptococcus equi*, ~100 kDa) (Sigma-Aldrich) solutions were made at concentrations of 3 mg/mL, which is similar to HA concentrations found in the synovial fluid¹. Cartilage plugs were isolated and treated as described in the materials and methods with the following exception. For samples that had the treatment group of both a peptidoglycan and HA, the cartilage plugs were first stored in the peptidoglycan treatment until ~2 hours before mechanical testing when it was rinsed and then submerged in the HA treatment and stored at 4°C right up until the time of friction testing.

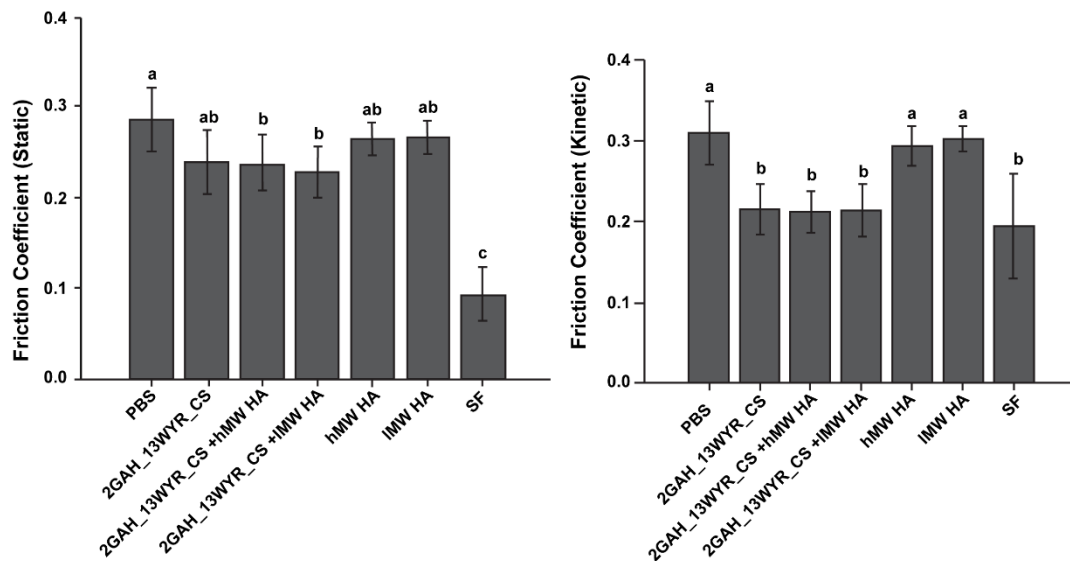


Figure S1. Coefficient of friction (COF) values measured at the cartilage surface. A) Static and B) kinetic COF were measured with PBS, 2GAH_13WYR_CS with or without hMW HA or lMW HA, hMW HA, lMW HA, or synovial fluid (SF) treatments. Groups (n=4) with the same letter are statistically similar ($p > 0.05$).

References

- 1) Elsaid, K. A., G. D. Jay, M. L. Warman, D. K. Rhee, and C. O. Chichester. Association of articular cartilage degradation and loss of boundary-lubricating ability of synovial fluid following injury and inflammatory arthritis. *Arthritis Rheum.* 52:1746–1755, 2005.