Supp. Figure 1: Cell displacements on thick matrices

A. Similar to trends observed with $<\varepsilon_{\infty}>$, $<u_{\infty}>$ scales with E_{gel} in a power-law dependent manner, with stem cells being maximally mechanosensitive.
B. Lateral propagation of displacements for a stem cell on gels of different stiffness. The common, characteristic decay length is ~0.25 R_{cell}.

Supp. Figure 2: Depth sensing: gel strain distributions

Individual interfacial strain components ($<\varepsilon_{rr}>$, $<\varepsilon_{zz}>$, $<\varepsilon_{rz}>$, $<\varepsilon_{\theta\theta}>$) plotted versus gel thickness for different values of E_{gel} exhibit different transition regimes.

Supp. Figure 3: Comparison of prestress distributions (soft gel)

Uniform prestress distribution, used in this paper is compared with edge prestress and interfacial prestress to study differences in the displacement and strain maps. In comparison to edge prestress, where peak displacements and strain compare well with those obtained with uniform prestress, interfacial prestress produces very low displacement and strains.

Supplementary Figure S1
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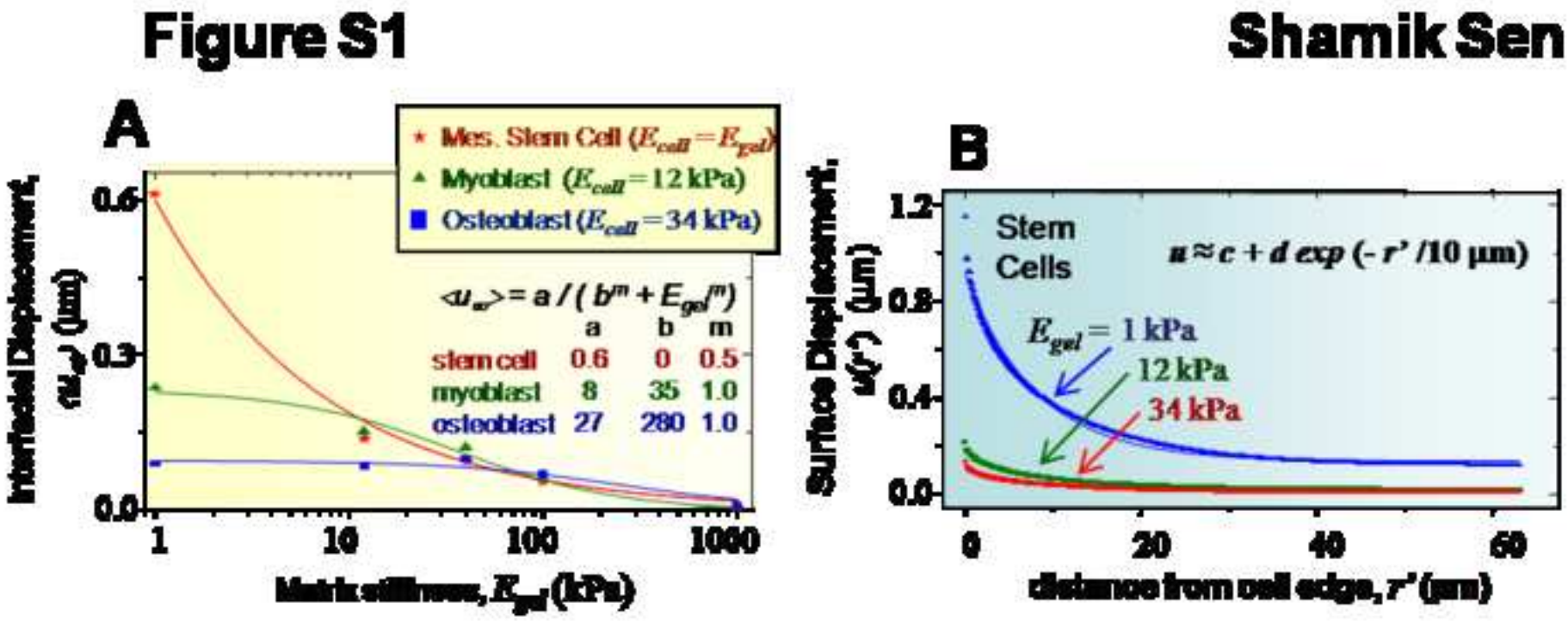

Supplementary Figure S2
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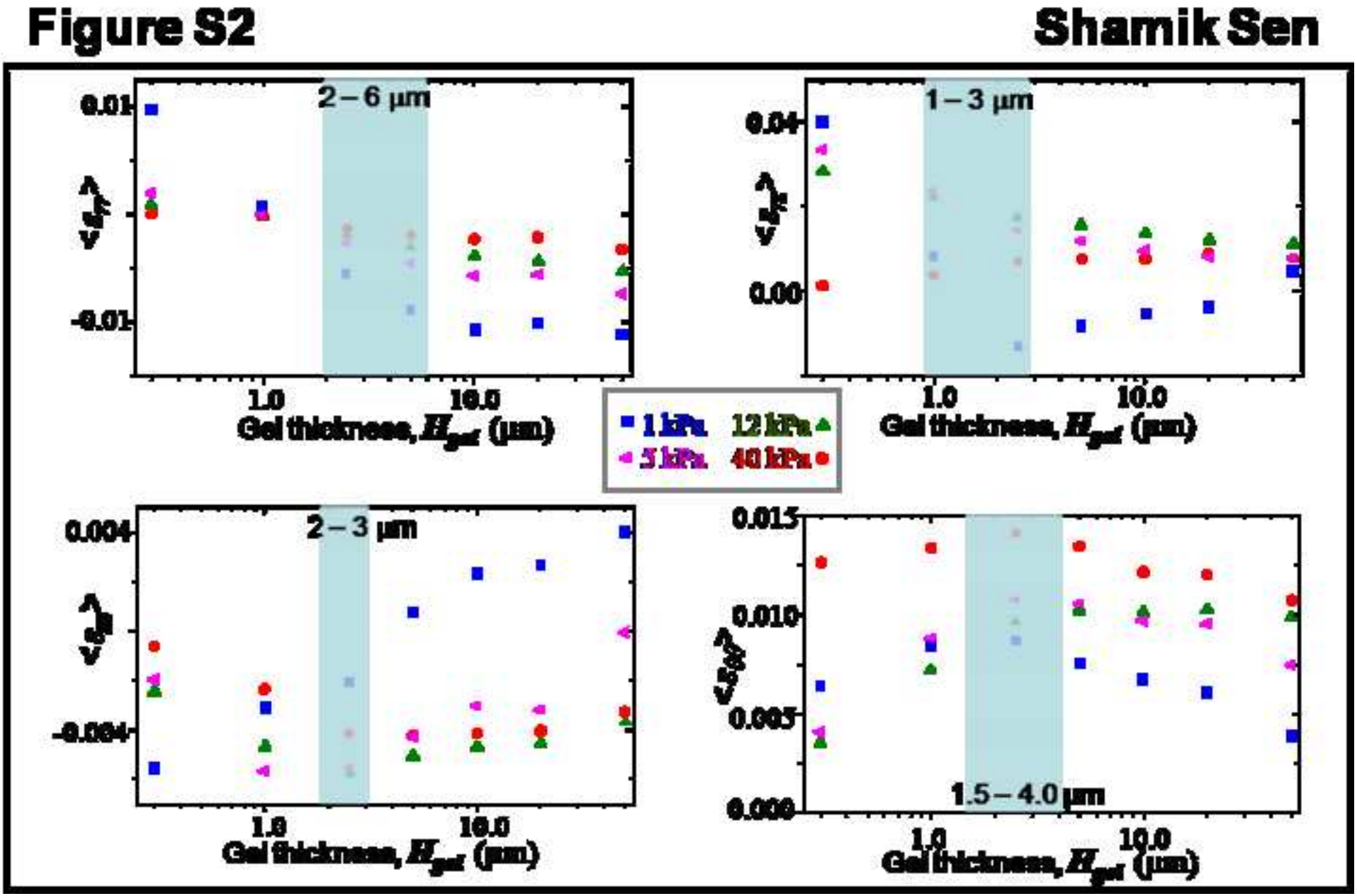

Supplementary Figure S3

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