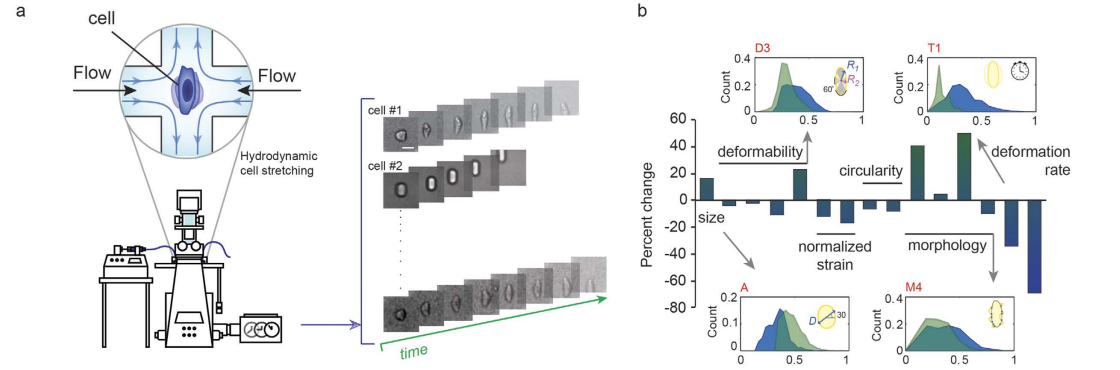

Figure 1. Comprehensive high-throughput quantification of cell physical properties. (**a**) Single cells in suspension are injected into a microfluidic device and are imaged while passing through a hydrodynamic stretching region. Several parameters are extracted from the image series captured from each cell. (**b**) The percent changes in median values of populations of hESCs (blue) and 14 day differentiated hESCs (green) are plotted for 15 parameters extracted from the image series. Histograms of >1000 single cells per condition are shown for select parameters, indicating substantial overlap in population characteristics when only considering a single parameter. (D3: Maximum deformability at the junction, A: Initial cell size, T1: Total deformation time, M4: Morphology metric extracted during deformation defined by the number of intersections of the trace and the moving average or the cell border).