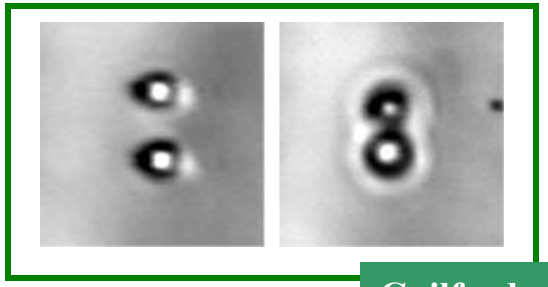
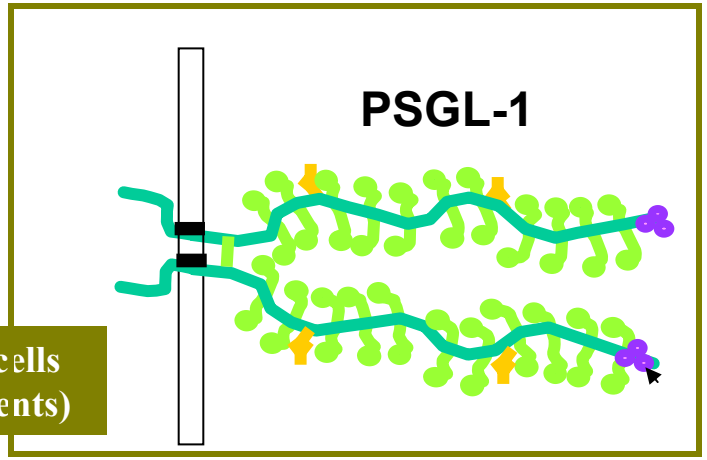
BRP Biomechanics of leukocyte adhesion molecules



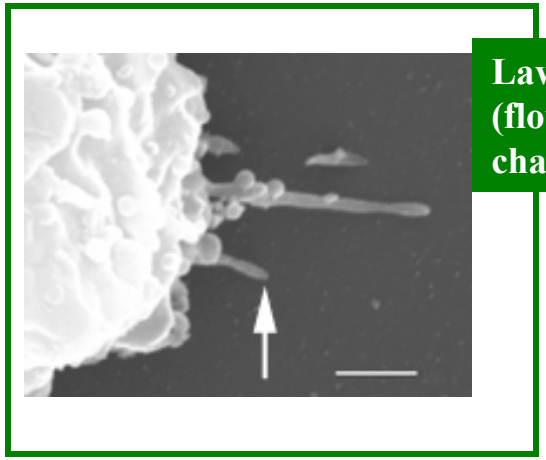
Guilford (laser trap)

basic

Kansas (cells and reagents)

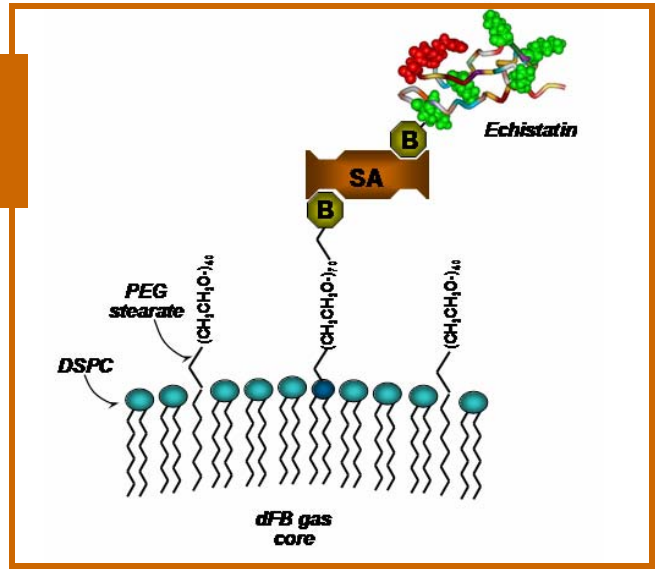


Ley (intravital microscopy)



Lawrence (flow chamber)

Lindner (targeted microbubbles)

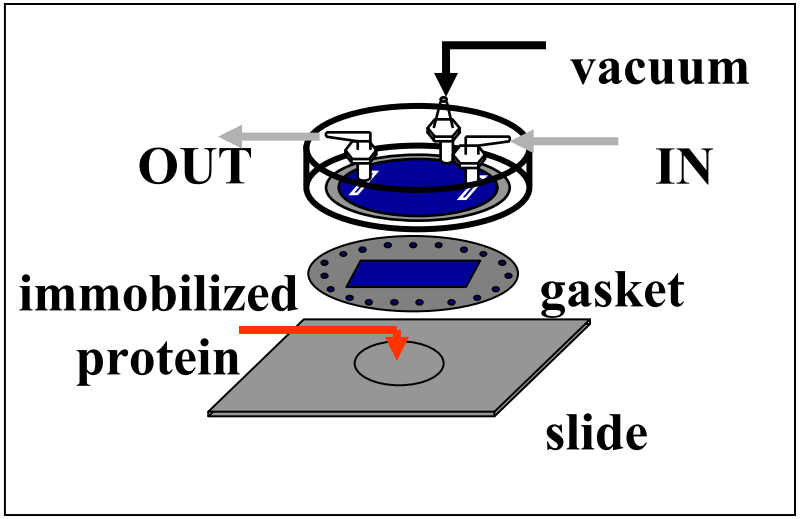


applied

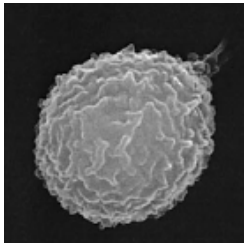
NIBIB 02185

BRP Biomechanics of leukocyte adhesion molecules:

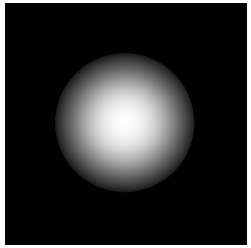
Characterizing leukocyte adhesion

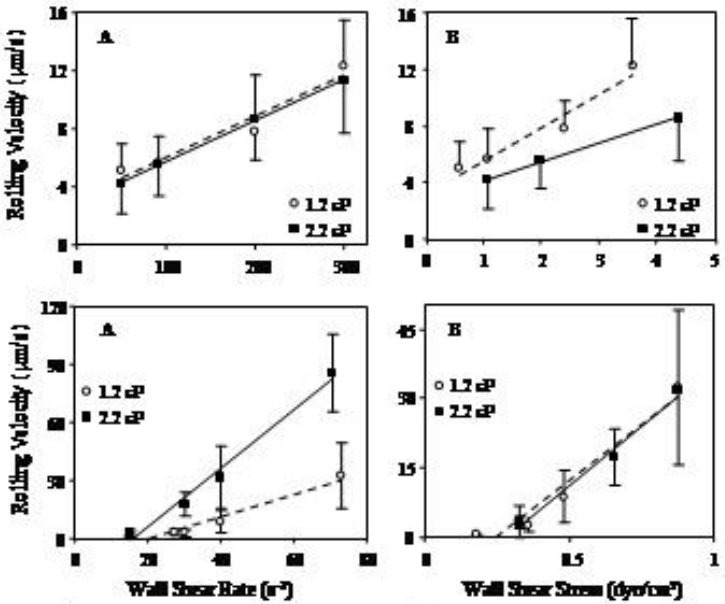


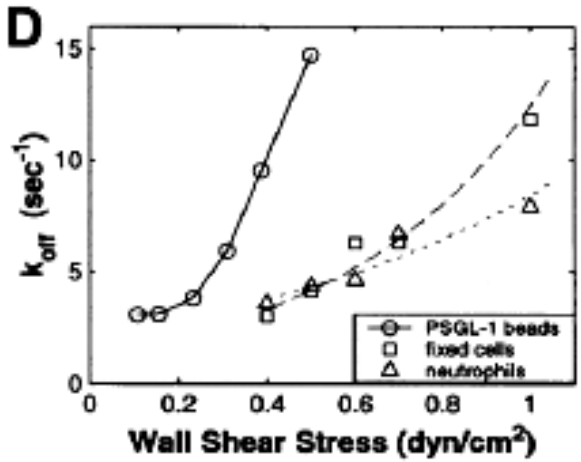
Neutrophils



PSGL-1 beads





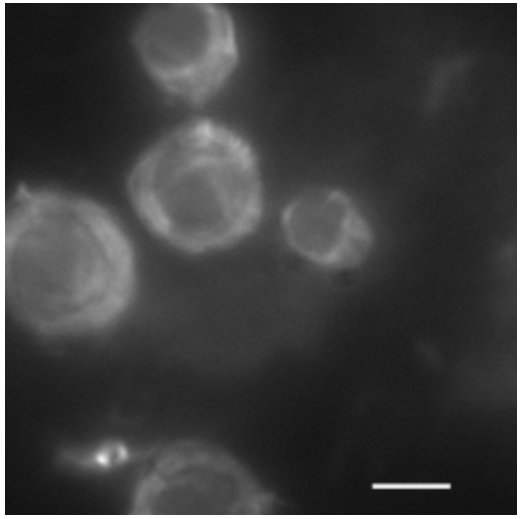


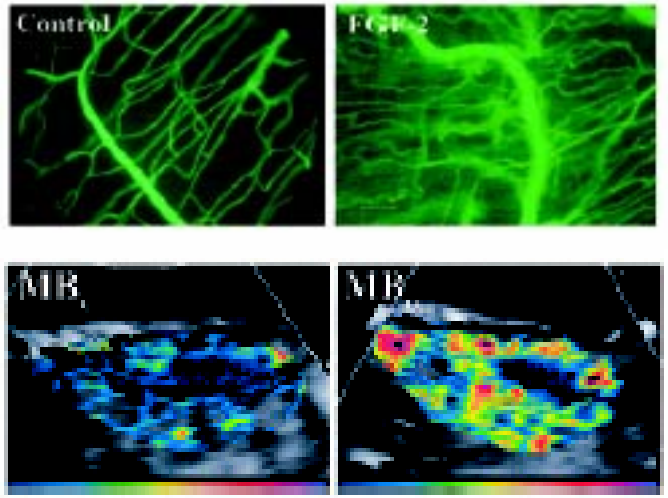
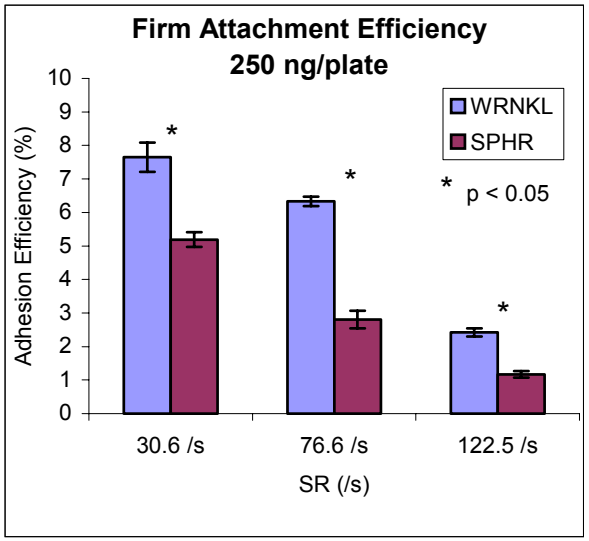
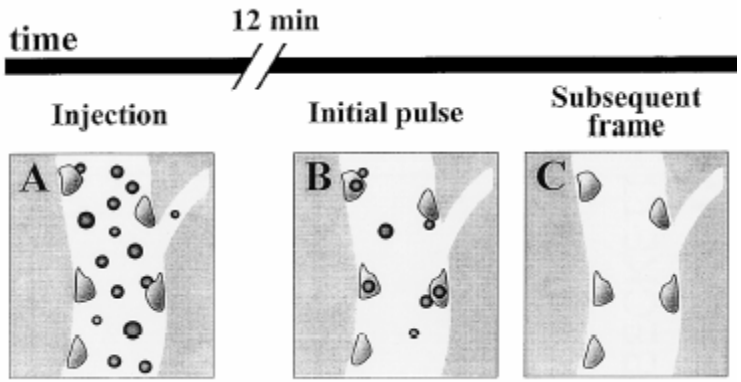
Wall shear stress, dyn/cm^2	Force on bond, pN	K_{off}, s^{-1}	Microvillus length, μm
0.4	94	3.6	0.21
0.6	121	4.6	0.30
1.0	180	7.9	0.38

BRP Biomechanics of leukocyte adhesion molecules:

Designing ultrasound contrast agents

proprietary process to generate "wrinkled" microbubbles with microprocesses for better attachment





Flow chamber: wrinkled or spherical microbubbles targeted to P-selectin on P-selectin antibody