

This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
<i>Ex vivo</i> microfluidic measurement of blood conductance to determine disease severity in patients with sickle cell disease	<p>A microfluidic device that simulates vaso-occlusive events could help determine disease severity in patients with sickle cell disease, monitor disease progression and guide treatment. The device ran blood samples through multiple deoxygenation-reoxygenation cycles and measured the resulting rate of decrease in blood conductance. In samples from 29 patients with sickle cell disease, the rate of decrease in blood conductance directly correlated with disease severity. In blood samples from patients with severe disease, the addition of 5-hydroxymethyl-2-furfural lowered the rate of blood conductance decreases compared with no treatment. Future studies could include validating the findings in a prospective trial in a larger patient population or in individual patients followed longitudinally.</p> <p>5-hydroxymethyl-2-furfural (Aes-103), an aromatic aldehyde that increases the affinity of sickle hemoglobin for oxygen from AesRx LLC, is in Phase I testing to treat sickle cell disease.</p> <p>SciBX 5(11); doi:10.1038/scibx.2012.289 Published online March 15, 2012</p>	Patent and licensing status unavailable	<p>Wood, D.K. <i>et al. Sci. Transl. Med.</i>; published online Feb. 29, 2012; doi:10.1126/scitranslmed.3002738</p> <p>Contact: L. Mahadevan, Harvard University, Cambridge, Mass. e-mail: lm@seas.harvard.edu</p> <p>Contact: John M. Higgins, same affiliation as above e-mail: john_higgins@hms.harvard.edu</p>