This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Drug platforms			
Structure/function analysis of multidrug and toxic compound extrusion (MATE)-family transporters to guide inhibitor development	<p>Crystallographic analysis of a MATE-family transporter could guide the rational design of inhibitors that circumvent drug resistance mediated by the protein. MATE transporters are conserved from bacteria to humans and export diverse chemical substrates including antibiotics. A MATE transporter from <i>Pyrococcus furiosus</i> was crystallized in multiple conformations including with the fluoroquinolone antibiotic norfloxacin or thioether-macrocyclic peptide inhibitors. The structure was used to model the mechanism by which the transporter exports its substrates and imports cations. Next steps include conducting structural studies of MATE transporters from pathogenic bacteria and humans and optimizing the drug-like properties of thioether-macrocyclic peptide inhibitors.</p> <p>PeptiDream Inc. discovers macrocyclic peptides against targets designated by its partners.</p> <p>SciBX 6(13); doi:10.1038/scibx.2013.322 Published online April 4, 2013</p>	Patent application filed; exclusively licensed to PeptiDream	<p>Tanaka, Y. <i>et al. Nature</i>; published online March 27, 2013; doi:10.1038/nature12014</p> <p>Contact: Osamu Nureki, The University of Tokyo, Tokyo, Japan e-mail: nureki@biochem.s.u-tokyo.ac.jp</p> <p>Contact: Hiroaki Suga, same affiliation as above e-mail: hsuga@chem.s.u-tokyo.ac.jp</p>