This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Disease models			
Engineered bacterial LeuT to detail antidepressant binding mechanisms	<p>An engineered bacterial homolog of eukaryotic biogenic amine transporters could be useful for informing how marketed antidepressants interact with their targets. Biogenic amine transporters are targeted by classes of drugs including selective serotonin reuptake inhibitors, serotonin-noradrenaline reuptake inhibitors and tricyclic antidepressants. Bacterial LeuT was engineered to have human biogenic amine transporter-like pharmacology and then crystallized in complex with drugs from four classes of antidepressants. Crystallographic analysis showed that drugs from all four antidepressant classes have similar modes of binding to the engineered LeuT and lock the protein in an outward-facing, open conformation. Next steps could include generating additional crystal structures of LeuT in complex with additional drug classes and using this information to inform compound design.</p> <p>SciBX 6(44); doi:10.1038/scibx.2013.1275 Published online Nov. 14, 2013</p>	Patent and licensing status unavailable	<p>Wang, H. <i>et al. Nature</i>; published online Oct. 13, 2013; doi:10.1038/nature12648 Contact: Eric Gouaux, Oregon Health & Science University, Portland, Ore. e-mail: gouauxe@ohsu.edu</p>