This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Chemistry			
Fourteen-step synthesis of ingenol to aid analog design	<p>A 14-step process for ingenol synthesis could facilitate the generation of analogs for therapeutic evaluation. Ingenol is a diterpenoid, and analogs of the molecule are marketed to treat cancer. However, ingenol currently is obtained directly from its plant source with an isolation yield of about 0.028% by weight. In the new approach, a 2-phase, 14-step chemical synthesis, starting from the inexpensive commodity chemical 3-carene, generated ingenol with a 1.2% overall yield. Next steps include optimizing the final steps of the process and trying to further decrease the number of synthesis steps.</p> <p>Leo Pharma A/S markets Picato ingenol mebutate gel, an ingenol 3-angeloyl topical formulation, to treat actinic keratosis. The topical drug also is in Phase II testing to treat basal cell carcinoma (BCC).</p> <p>SciBX 6(34); doi:10.1038/scibx.2013.938 Published online Sept. 5, 2013</p>	Provisional patent application filed; licensing details available from Leo Pharma	<p>Jørgensen, L. <i>et al. Science</i>; published online Aug. 1, 2013; doi:10.1126/science.1241606</p> <p>Contact: Phil S. Baran, The Scripps Research Institute, La Jolla, Calif. e-mail: pbaran@scripps.edu</p> <p>Contact: Steve J. McKerrall, same affiliation as above e-mail: stevenmc@scripps.edu</p>