This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Assays & screens			
Coupled ligand affinity capture and massively parallel DNA sequencing (Chem-seq) for genome-wide mapping of interactions between small molecules and chromatin	Chem-seq can help map interactions between small molecules and their protein targets in chromatin of cells. In Chem-seq, cells are first treated with an affinity capture-capable analog of a compound targeting a chromatin-bound protein. Next, the proteins are cross-linked to DNA, and the associated DNA is purified and sequenced. In proof-of-concept studies in cultured human multiple myeloma (MM) cells, a biotinylated analog of the bromodomain inhibitor JQI mapped the compound to the same DNA regions as chromatin immunoprecipitation sequencing (ChIP-seq) assays with antibodies against bromodomain containing 4 (BRD4). Next steps include using Chem-seq to investigate drugs that target proteins that control transcription on a genome-wide scale and developing a more robust second-generation version of Chem-seq.	Patent application filed; licensed to Syros Pharmaceuticals Inc.	Anders, L. <i>et al. Nat. Biotechnol.</i> ; published online Dec. 15, 2013; doi:10.1038/nbt.2776 Contact: James E. Bradner, Dana-Farber Cancer Institute, Boston, Mass. e-mail: james_bradner@dfci.harvard.edu Contact: Richard A. Young, Whitehead Institute for Biomedical Research, Cambridge, Mass. e-mail: young@wi.mit.edu
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