This week in techniques

Approach	Summary	Licensing status	Publication and contact information
Markers			
Markers of distinct sonic hedgehog homolog (SHH)-driven medulloblastomas	Mouse and sequencing studies suggest SHH-driven medulloblastomas in adults, children and infants are molecularly distinct from one another and should be treated using different protocols. Most adults but only about half of pediatric patients with SHH-driven medulloblastomas respond to smoothened (SMO) inhibitors. In SHH-driven medulloblastoma tumor samples from 50 adults, 33 children over 3 years old and 50 infants, sequencing showed that <i>SMO</i> mutations were enriched in adults, <i>suppressor of fused homolog</i> (<i>SUFU</i>) mutations were found almost exclusively in infants and amplifications in both <i>v-myc myelocytomatosis viral related oncogene neuroblastoma derived</i> (<i>MYCN</i>; <i>NMYC</i>) and <i>glioma-associated oncogene homolog 2 zinc finger protein</i> (<i>GLI2</i>) plus <i>p53</i> mutations were enriched in children. In mouse xenograft models, <i>SUFU</i>-mutated and <i>MYCN</i>-amplified SHH-driven medulloblastomas showed resistance to the small molecule SMO inhibitor LDE225. Next steps could include developing a patient screening assay for the gene alterations. Novartis AG has LDE225 in Phase III testing to treat basal cell carcinoma (BCC) and Phase I testing to treat other cancers. Roche's Genentech Inc. unit markets the SMO inhibitor Erivedge vismodegib to treat BCC. At least four other companies have SMO inhibitors in Phase III or earlier testing to treat various cancers. SciBX 7(15); doi:10.1038/scibx.2014.444 Published online April 17, 2014	Patent and licensing status unavailable	Kool, M. <i>et al. Cancer Cell</i>; published online March 17, 2014; doi:10.1016/j.ccr.2014.02.004 Contact: Marcel Kool, German Cancer Research Center, Heidelberg, Germany e-mail: m.kool@dkfz.de