

### This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
<b>Cancer</b>				
Leukemia	Phosphoinositide 3-kinase- $\delta$ (PI3K $\delta$ ); recombination activating gene 2 (RAG2)	<p>Studies in mice and in cell culture suggest that inhibiting PI3K<math>\delta</math> can have mixed effects on the treatment of leukemia. RAG2<sup>-/-</sup> mice that received transplants of PI3K<math>\delta</math><sup>-/-</sup> leukemia cells survived significantly longer than mice that received PI3K<math>\delta</math><sup>+/-</sup> cells (<math>p=0.005</math>). Conversely, RAG2<sup>-/-</sup>/PI3K<math>\delta</math><sup>-/-</sup> mice challenged with leukemia cells had shorter survival time than PI3K<math>\delta</math><sup>+/-</sup> mice (<math>p=0.039</math>). Moreover, cell-culture studies revealed that the PI3K<math>\delta</math><sup>-/-</sup>-deficient natural killer cells had less cytolytic activity than PI3K<math>\delta</math><sup>+/-</sup> cells. Next steps include validating the murine results in human leukemic and natural killer cells.</p> <p>CAL-101, an orally available small molecule inhibitor of PI3K<math>\delta</math> from Calistoga Pharmaceuticals Inc., is in Phase I trials to treat hematologic malignancies.</p>	Not patented; licensing status not applicable	<p>Zebedin, E. <i>et al. Blood</i>; published online Aug. 6, 2008; doi:10.1182/blood-2008-02-139105</p> <p><b>Contact:</b> Veronika Sexl, Medical University of Vienna, Vienna, Austria e-mail: <a href="mailto:veronika.sexl@meduniwien.ac.at">veronika.sexl@meduniwien.ac.at</a></p>