This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	Proteasome	<p><i>In vitro</i> and <i>in vivo</i> studies suggest that a class of boronic acid proteasome inhibitors could help treat multiple cancers. <i>In vitro</i>, a dipeptidyl boronic acid analog inhibited the 20S subunit of the human proteasome at low nanomolar concentrations. The inhibitor was cytotoxic in several human cancer cell lines, including multiple myeloma (MM), non-small cell lung cancer (NSCLC) and prostate and ovarian cancer. Normal zebrafish and rats treated with the inhibitor had fewer toxic side effects than control animals that received Velcade bortezomib. Future studies could include testing the inhibitor in animal models of cancer.</p> <p>Velcade, a dipeptide boronic acid proteasome inhibitor from Takeda Pharmaceutical Co. Ltd.'s Millennium Pharmaceuticals Inc. unit and Johnson & Johnson, is marketed to treat mantle cell lymphoma and MM and is in Phase III testing to treat relapsed or refractory non-Hodgkin's lymphoma (NHL).</p> <p>Onyx Pharmaceuticals Inc.'s carfilzomib (PR-171), a selective proteasome inhibitor, has completed Phase II testing to treat relapsed MM.</p> <p>Nereus Pharmaceuticals Inc.'s NPI-0052, a second-generation proteasome inhibitor isolated from the Gram-positive actinomycete <i>Salinispora tropica</i>, is in Phase I testing to treat MM, NSCLC and other cancers.</p> <p>SciBX 3(9); doi:10.1038/scibx.2010.273 Published online March 4, 2010</p>	Patented by Simcere Pharmaceutical Group; licensing status unavailable	<p>Zhu, Y. <i>et al. J. Med. Chem.</i>; published online Feb. 16, 2010; doi:10.1021/jm901407s</p> <p>Contact: Yongqiang Zhu, Jiangsu Simcere Pharmaceutical Research Institute, Nanjing, China e-mail: zhyqscu@hotmail.com</p>