

This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Various				
Autoimmune disease; cancer	Proteasome	<p><i>In vitro</i> studies identified belactosin A proteasome inhibitors with peptide boronate warheads that could help treat cancer or autoimmune diseases. <i>In vitro</i>, the compounds inhibited the 20S proteasome's chymotrypsin-like activity better than the marketed proteasome inhibitor Velcade bortezomib and decreased growth of a human colon cancer cell line compared with compounds lacking the modified warhead. The most potent compound specifically inhibited proteasome activity, whereas Velcade also inhibited cathepsin A and cathepsin G. Next steps could include testing the inhibitors in disease models. Takeda Pharmaceutical Co. Ltd. and Johnson & Johnson market Velcade to treat multiple myeloma (MM) and mantle cell lymphoma (MCL). Amgen Inc. and Ono Pharmaceutical Co. Ltd. market the selective proteasome inhibitor Kyprolis carfilzomib to treat MM.</p> <p>At least 10 companies have proteasome inhibitors in Phase III or earlier testing to treat various cancers.</p> <p>SciBX 7(11); doi:10.1038/scibx.2014.322 Published online March 20, 2014</p>	Patent and licensing status unavailable	<p>Kawamura, S. <i>et al. J. Med. Chem.</i>; published online Feb. 13, 2014; doi:10.1021/jm500045x Contact: Satoshi Shuto, Hokkaido University, Sapporo, Japan e-mail: shu@pharm.hokudai.ac.jp</p>