

### This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
<b>Pulmonary disease</b>				
Chronic obstructive pulmonary disease (COPD)	Nuclear factor (erythroid-derived 2)-like 2 (NFE2L2; NRF2)	<p>Studies in mice suggest that activating NRF2, a regulator of protection mechanisms against oxidative stress in the lungs, could be useful for treating COPD.</p> <p>In wild-type mice exposed to cigarette smoke for six months, the NRF2 activator 1-[2-cyano-3-,12-dioxooleana-1,9(11)-dien-28-oyl]-imidazole lowered lung oxidative stress, alveolar cell apoptosis, alveolar destruction and pulmonary hypertension compared with what was seen in untreated wild-type mice and <i>Nrf2</i> double-knockout mice. Next steps include clinical testing of small molecule NRF2 activators in COPD patients.</p> <p>Biogen Idec Inc.'s BG-12, an oral dimethyl fumarate that activates the NRF2 pathway, is in Phase III testing to treat relapsing-remitting multiple sclerosis (RRMS).</p> <p><b>SciBX 2(1); doi:10.1038/scibx.2009.28</b> Published online Jan. 8, 2009</p>	Patent cooperation treaty patent application filed for targeting the NRF2 pathway to intervene in COPD; available for licensing	<p>Sussan, T. <i>et al. Proc. Natl. Acad. Sci. USA</i>; published online Dec. 22, 2008; doi:10.1073/pnas.0804333106</p> <p><b>Contact:</b> Shyam Biswal, Johns Hopkins Bloomberg School of Public Health, Baltimore, Md. e-mail: <a href="mailto:sbiswal@jhsph.edu">sbiswal@jhsph.edu</a></p>