This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Neurology				
Alzheimer's disease (AD)	Sterol O-acyltransferase 1 (SOAT1; ACAT1); β -amyloid ($A\beta$); $A\beta_{42}$	Cell culture and mouse studies suggest inhibitors of ACAT1 could help treat AD by promoting microglia-mediated clearance of $A\beta$. In cultured murine microglia, knockout of <i>Acat1</i> led to increased degradation of oligomeric $A\beta_{42}$ compared with wild-type <i>Acat1</i> expression. In murine microglia culture, a small molecule ACAT1 inhibitor stimulated clearance of $A\beta_{42}$ at low micromolar concentrations. In mice receiving hippocampal injections of $A\beta_{42}$, microglia-specific knockout of <i>Acat1</i> led to lower hippocampal levels of residual $A\beta_{42}$ than no microglial knockout. Next steps could include determining if ACAT1 blockade could decrease memory and behavioral deficits in mouse models of AD. Atterocor Inc. has the selective ACAT1 inhibitor ATR-101 in Phase I testing to treat adenocarcinoma.	Patent and licensing status unavailable	Shibuya, Y. <i>et al. J. Neurosci.</i> ; published online Oct. 22, 2014; doi:10.1523/JNEUROSCI.2567-14.2014 Contact: Ta-Yuan Chang, Geisel School of Medicine at Dartmouth, Hanover, N.H. e-mail: ta.yuan.chang@dartmouth.edu
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