This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Cancer				
Brain cancer	Isocitrate dehydrogenase 1 (IDH1); hypoxia-inducible factor 1 α subunit (HIF1 α)	<i>In vitro</i> studies suggest that an α -ketoglutarate-mimicking compound could help treat gliomas characterized by mutations in the <i>IDH1</i> gene. In cell culture, IDH1 small hairpin RNA knockdown led to lower levels of α -ketoglutarate and increased activity of HIF1 α , a transcription factor that contributes to tumor growth under hypoxic conditions. In the same cells, a compound that mimicked α -ketoglutarate suppressed HIF1 α activity. Next steps include testing an α -ketoglutarate analog in mouse models of glioma. Oncothyreon Inc.'s PX-478, a HIF1 α inhibitor, is in preclinical testing to treat brain cancer.	Provisional patent filed for using α -ketoglutarate to treat gliomas and glioblastomas with IDH1 or IDH2 mutations; licensing status unknown	Zhao, S. <i>et al. Science</i> ; published online April 9, 2009; doi:10.1126/science.1170944 Contact: Kun-Liang Guan, Fudan University, Shanghai, China e-mail: kuguan@ucsd.edu Contact: Yue Xiong, The University of North Carolina, Chapel Hill, Chapel Hill, N.C. e-mail: yxiong@email.unc.edu
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