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This week in therapeutics

Indication	Target/marker/ pathway	Summary	Licensing status	Publication and contact information
Cancer				
Cancer	Polo-like kinase 1 (PLK1; STPK13); anaphase promoting complex subunit 1 (ANAPC1); ANAPC4	A study in cell culture and in mice suggests that antagonizing PLK1, ANAPC1, ANAPC4 and other proteins involved in mitosis could help treat K-Ras-positive tumors. A genomewide RNAi screen showed that small hairpin RNA knockdown of PLK1, ANAPC1 and ANAPC4 inhibited the growth of tumors with activated K-Ras more than that of tumors with wild-type K-Ras. In mice, the small molecule PLK1 antagonist BI 2536 inhibited the growth of K-Ras-positive tumors compared with no treatment. Next steps include validating other genes identified in the screen in mouse cancer models. PLK1 inhibitors in the clinic include: Boehringer Ingelheim GmbH's BI 6727, which is in Phase II trials for non–small cell lung cancer (NSCLC) and Phase I/IIa trials for acute myeloid leukemia (AML); Onconova Therapeutics Inc.'s ON 01910. Na, which is in Phase I trials for solid tumors; and GlaxoSmithKline plc's GSK461364, which is in Phase I for non-Hodgkin's lymphoma (NHL). Tekmira Pharmaceuticals Corp. has a PLK1-targeting RNAi formulation in preclinical development.	Unpatented; licensing status not applicable	Luo, J. *et al. Cell*; published online May 29, 2009; doi:10.1016/j.cell.2009.05.006 **Contact:** Stephen J. Elledge, Harvard Medical School, Boston, Mass. e-mail: selledge@genetics.med.harvard.edu

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