

This week in therapeutics

Indication	Target/marker/pathway	Summary	Licensing status	Publication and contact information
Infectious disease				
Cytomegalovirus (CMV) infection	Platelet-derived growth factor (PDGF); PDGF receptor- α (PDGFR- α); CMV glycoprotein B	Studies in murine and human cell lines suggest that antagonizing PDGFR- α could help prevent CMV infection. In murine Pdgfr- α knockout cells and in human cells pretreated with PDGFR- α small interfering RNA, CMV viral gene expression was undetectable compared with what was seen in wild-type and mock-treated controls. Pretreatment with a PDGFR- α -blocking antibody or the small molecule PDGFR- α inhibitor Gleevec imatinib inhibited human CMV protein expression in multiple human cell lines. Subsequent studies identified the viral envelope protein, CMV glycoprotein B, as the PDGFR- α binding partner. Ongoing studies are seeking to confirm the findings <i>in vivo</i> . Gleevec imatinib, a tyrosine kinase inhibitor from Novartis AG, is marketed to treat Philadelphia chromosome-positive (Ph+) chronic myeloid leukemia (CML), acute lymphoblastic leukemia (ALL), myelodysplastic syndrome (MDS) and gastrointestinal stromal tumors (GIST).	Patent applications submitted in the U.S. and internationally for the inhibition of CMV-PDGFR α interaction and the inhibition of receptor activation and function; licensing status undisclosed	Soroceanu, L. <i>et al. Nature</i> ; published online Aug. 13, 2008; doi:10.1038/nature07209 Contact: Charles Cobbs, University of California, San Francisco Medical Center, San Francisco, Calif. e-mail: charles.cobbs@gmail.com