



California Pacific
Medical Center

A Sutter Health Affiliate

With You. For Life.

EMBARGOED UNTIL AUGUST 13, 2008, 1PM EST

Contact: Kevin McCormack, (415) 600-7484

or pager (415) 232-6463

McCormKD@sutterhealth.org

Researchers Identify Critical Factor in Human CMV Infection

Discovery could provide target for new anti-viral therapies

(San Francisco, August 13, 2008) Researchers have identified a protein they believe is essential in allowing the human cytomegalovirus (CMV) to cause life-threatening infections. The findings are being published online, ahead of print, on the website of the journal *Nature*.

“This is a potentially very important finding,” says Liliana Soroceanu, M.D., Ph.D., lead author of the study from the California Pacific Medical Center Research Institute. “The discovery that this protein, called platelet-derived growth factor-alpha receptor (PDGFR- α), is involved in CMV infection suggests a new target for anti-viral therapies.”

CMV, a type of herpes virus, is the most common infection at birth—about 40,000 cases in the U.S. annually. The most frequent complications are hearing or vision loss, and varying degrees of mental retardation.

“Every hour the virus causes one child in the U.S. to become disabled,” says Charles Cobbs, M.D. of the California Pacific Medical Center Research Institute, and one of the authors of the study. “By understanding how CMV gets into a patient’s cell, we can identify new and better ways of treating the infection, or even of preventing it altogether.”

The study shows that CMV has to activate PDGFR- α in order to infect the cell. Once activated, that receptor stimulates the production of yet more viruses. This causes a cascade of events that spreads the virus throughout the patient.

The researchers say there are a few already available drugs that may block PDGFR- α , and prevent the virus from infecting cells. One is the anti-cancer medication imatinib (Gleevec®), another is the antibody IMC-3G3 made by ImClone.

The findings have other implications too. CMV infection is sometimes lethal in patients who are immunocompromised. “And this virus has been found in several forms of cancer, particularly brain tumors,” says Dr. Cobbs. “Moreover, this growth factor receptor has been known to drive cancer, so our findings suggest that its activation by CMV may promote tumor growth. If further studies verify this, it could help us develop new ways of treating these kinds of cancers.”

California Pacific Medical Center. Beyond Medicine.

At San Francisco's California Pacific Medical Center, we believe in the power of medicine. We research the most up-to-date treatments, hire the most qualified individuals, and practice the most modern, innovative medicine available. We deliver the highest quality expert care, with kindness and compassion, in acute, post-acute and outpatient services, as well as preventive and complementary medicine. But we also believe that medicine alone is only part of the solution. That's why we look intently at each individual case and treat the whole person, not just the illness. It's why we go beyond medical care and provide our patients with things like disease counseling, family support and wellness treatments. As one of California's largest private, community-based, not-for-profit, teaching medical centers, and a Sutter Health affiliate, we are able to reach deep into our community to provide education, screening and financial support in some of the city's most underserved neighborhoods. Because medicine can transform a body. But going beyond medicine can transform a life. www.cpmc.org