



portant role in cell signaling—it modulates gene expression from a key cytokine-induced inflammatory pathway as well as apoptosis pathways. These results define new mechanisms for APC and link coagulation to inflammation and cell death (*J. Biol. Chem.* 276, 11199; 2001).

And according to Gordon Bernard, associate director of the Division of Allergy, Pulmonary and Critical Care at Vanderbilt University School of Medicine, APC reduces levels of several toxic proteins that are elements in downstream events such as d-dimers in plasma (*NEJM*, 344, 699; 2001).

Is there a down side? So far, the only complication has been bleeding. However, Lilly says the effect is small, only a 1.5% difference between the drug-treated and placebo group. In contrast, the difference in mortality rates between the two groups was 6–30% in the placebo group versus 24% in the treated group.

Laura DeFrancesco, Pasadena

Suit filed against world famous cancer center

Allegations of patient deaths and conflicts of interest in a 13-year-long clinical trial at the Fred Hutchinson Cancer Research Center in Seattle, has prompted a class action lawsuit by 82 families, as well as promises of reforms by center officials.

The case revolves around Protocol 126, which ran from 1981 to 1993 and aimed to test whether removing T lymphocytes from bone marrow donated by tissue-matched siblings improved graft-versus-host survival rates in leukemia patients. Eight antibodies—including three produced by a now dissolved Seattle biotech company called Genetic Systems—were used to remove T cells. Normal transplantation success rate is around 50%, but with T lymphocyte eradication, the rates of rejection of donated marrow and of cancer relapse are reported to have increased dramatically. According to the newspaper reports from the court, 80 of 82 patients died, and at least 20 of these deaths were attributable to graft failures during treatment.

The families of two patients who died claim the center violated human-subject research ethics and consumer protection laws when it carried out the

PCs enlisted to cure cancer

Cure cancer during your coffee break, crack protein folding while you're at lunch, evaluate AIDS drugs as you chat on the phone. Every time you step away from desk, your computer sits idle, but network your humble PC with thousands or millions of others through the Internet and a virtual super-computer emerges. This is the power of distributed, or peer-to-peer (P2P), computing, and the potential benefits of using this spare computing power means that researchers are vying for the use of your PC.

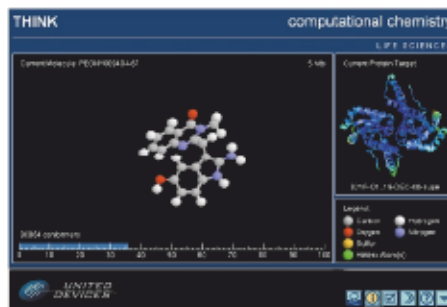
The latest P2P project—a collaboration between Oxford University's Centre for Computational Drug Discovery, the National Foundation for Cancer Research, distributed computing specialist United Devices and Intel—aims to find drug candidates for treating leukemia. The project's program THINK runs as a screen saver and tests binding interactions between selected target proteins, including superoxide dismutase and vascular endothelial growth factor, against a bank of small molecule drug candidates. Interactions are logged and sent back to the researchers for follow-up, reducing millions of potential drug leads to around 200,000 candidates.

Project-leader Graham Richards, Chairman of Chemistry at Oxford University, claims that even if using a

traditional supercomputer, “a researcher could not hope to see a project like this completed during their lifetime.” But to succeed, the general public must download and run the software. Richards says that the response so far has been “absolutely staggering”. In the first week of the project, 200,000 individuals have signed up, and software downloads have at peak times reached three per second. This has already allowed the team to increase the number of drug candidates they plan to screen from 250 million to 800 million.

Other P2P networks aimed at combating disease include Entropia's FightAIDS@home, and Intel plans to develop similar programs for Parkinson disease and diabetes. Richards put the success of THINK down to simple program design which participants can easily understand, and perhaps more importantly to peoples' personal connection with cancer. “One in four people throughout the world contract some form of cancer, so nearly everyone will have a relative, friend or colleague who has suffered, or is suffering from the disease. People now have the opportunity to make a positive impact on the disease by donating their unused computer power,” he says.

John MacFarlane, London



<http://www.ud.com/cancer>

research. The lawyer for the families, Alan Millstein, also represented the family of Jesse Gelsinger, who died during a gene therapy clinical trial run by the University of Pennsylvania (*Nature Med.* 6, 6; 2000). And he has initiated a lawsuit on behalf of patients involved in a University of Oklahoma clinical trial shut down by federal officials last year (*Nature Med.* 6, 946; 2000).

Genetic Systems, which has since been sold to Bristol-Myers Squibb and no longer exists, is also named in the suit because several Hutchinson doctors either worked for or owned stock in

Genetic Systems at the time of the trial. Hutchinson spokeswoman Susan Edmonds says that the center did not have a conflict of interest policy in place when officials became involved with Genetic Systems in 1981. She adds that the company was interested in commercializing the antibodies against sexual transmitted diseases, and that the firm was not directly involved in the transplant studies. The center has appointed a committee of independent experts to review the way it handles financial conflicts and informed consent.

Eric Nisler, San Diego