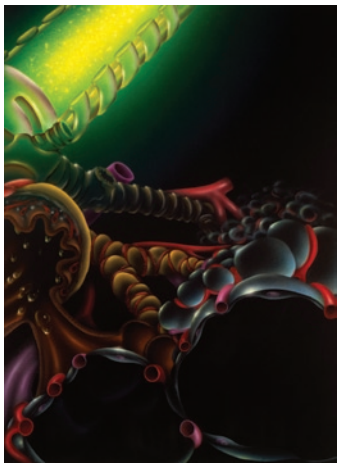
Cochrane meta-analysis on alpha-1 antitrypsin prompts furor

A July 2010 review from the Cochrane Collaboration has questioned the use of the purified versions of the biologic alpha-1 antitrypsin (AAT) to treat lung disease, a conclusion quickly challenged by advocacy groups and manufacturers. AAT is a protease inhibitor (also known as alpha-1 protease inhibitor) that is thought to protect pulmonary tissue against the destructive activity of a wide variety of proteases, in particular elastase. AAT deficiency is an inherited disorder that can cause chronic obstructive pulmonary disease with pulmonary emphysema, as elastase concentrations rise and start to break down elastin needed for lung elasticity. The condition, which can also lead to liver disease, is treated with augmentation therapy using AAT. The product is purified from blood plasma for intravenous delivery to patients and sold by US firm Talecris, in Research Triangle Park, North Carolina, and Kamada, in Ness Ziona, Israel, among others. Market leader Talecris, which is in the process of merging with Barcelona-based Grifols, earned $319 million in 2009 from sales of its AAT line, Prolastin.



Pulmonary emphysema (diagram) caused by inherited alpha-1 antitripsin (AAT) deficiency is often treated with ATT augmentation therapy, but a recent review blasts this treatment as useless.

The Cochrane report did not go down well. The Cochrane Collaboration is a not-for-profit, independent organization headquartered in Oxford, UK, with contributors from more than 100 countries. Its sole purpose is to produce reviews of data from clinical trials to support evidence-based medicine, and these tend to be closely scrutinized by prescribing physicians in deciding treatment options. In this instance, Peter Gøtzsche, director of the Nordic Cochrane Centre in Copenhagen, concluded that AAT augmentation therapy "cannot be recommended, in view of the lack of evidence of clinical benefit and the cost of treatment," which can run to $150,000 annually for weekly infusions.

The review examined data from the only two randomized clinical trials conducted in AAT, both produced by the same group of investigators and encompassing 140 patients. The authors had planned to include head-to-head trials in which both groups received AAT in different doses or regimens but did not. "Such trials have little interest as long as it has not been shown that augmentation therapy… has any clinical value compared with placebo or no treatment," they wrote. Asger Dirksen of the University of Copenhagen, lead investigator in both trials, originally participated in the development of the Cochrane review protocol but asked that his name be removed from the final paper.

According to the review, mortality data were not reported in either trial nor did the researchers report an average number of lung infections or hospital admissions. The annual number of exacerbations and the quality of life were similar in the treated and untreated groups, the review noted. The report challenged the lack of detail on other outcome measures of lung function, notably

IN their words

"I am a fan of the work… that led to the decoding of the Neanderthal genome. But we don't need any more Neanderthals on the planet, right? We already have enough of them." Genome researcher Craig Venter, whose team created the first bacteria with a synthetic genome, on his lack of plans to produce a 'synthetic human' anytime soon. (*Der Spiegel*, 29 July 2010)

"Above all, what I'm looking for is businesses that are not dependent on patents. This is my fourth patent cliff in my career and I'm looking to avoid a fifth." Sanofi Aventis CEO Chris Viebacher, CEO of Sanofi Aventis, which has been recently linked with a buyout of Genzyme. *(Associated Press,* 30 July 2010)

"It's absolutely historic, and it's remarkable that we achieved this with the symbol of Spain." Veterinarian Julio César Diez of Palencia expounds on Got, Spain's first cloned fighting bull, which instead of facing a matador will spend its time siring other bulls. (*New York Times,* 30 July 2010)

IN brief

Stem cell clinic patrol

A web-based effort to report and investigate bogus stem cell clinics' claims has been launched. The International Society for Stem Cell Research (ISSCR), an independent, nonprofit organization has set up the first global policing site aimed at helping individuals and their doctors separate hypers and fraudsters from legitimate researchers and experiments. Starting on June 1, the portal on the website http://www.closerlookatstemcells.org/ allows people to submit the names of clinics whose cure claims they want the Deerfield, Illinois–based ISSCR to evaluate. The driving force behind the new effort is the rise of clinics located in more than two dozen countries, which promote cures for conditions ranging from multiple sclerosis and arthritis to diabetes and baldness (*Nat. Biotechnol.* **27**, 790–792, 2009). The evaluation will ask the clinics to present scientifically validated evidence for their treatment claims. They will also be asked to describe how their operations are scrutinized by appropriate national regulatory agencies. For the stem cell research community, self-interest is also at work. "The reason we stepped in is because [the websites] are using hype around stem cells to their own advantage, and it is going to invite a backlash against legitimate investigation," says George Daley, director of the stem cell transplantation program at Harvard Medical School and past president of ISSCR. By the first week in August, 280 submissions had been received. *Stephen Strauss*

EC woos SMEs

The European Commission (EC) is inviting biotech firms to apply for research grants, if partnered with academia. For the first time, a quarter of the biotech-specific grants will require the participation of small and medium enterprises (SMEs). The EC plans to hand out €240.3 million ($310.2 million) in direct research grants in 2011, up 26% from the €190 million ($245.3 million) this year. The bio-boost, part of a scheduled ramp-up to €6.4 billion ($8.2 billion) in research funding across all disciplines, is spread across three main areas: agriculture and fisheries, food, health and wellbeing and life sciences and biotech (€70.6 ($90.9) million). The 'cooperation' grants, which require researchers from three or more countries to collaborate, are part of the Seventh Framework Programme (FP7). The number of calls for proposals in industrial biotech, biorefineries and in emerging biotech areas has grown this year, according to the EC, which lists its calls for proposals online. Biotech researchers may also find relevant calls for proposals in neighboring research areas within the cooperation theme or through career grants from the European Research Council, which will provide €661 ($850.7) million across the life sciences. Researchers from academia and industry can learn more on September 13 and 14 at an EC-hosted information day and conference about the "knowledge based bio-economy" (http://www.kbbe2010.be/). *Lucas Laursen*