IN brief

California bill abets biotech

California will join eight other states in allowing companies to carry forward for 20 years their net operating losses (NOL). The measure, which was inserted in California's upcoming budget after the original bill died in August, is not specific to biotech firms but is particularly useful to them, because of the long timeline for drug development. Still, inclusion of the measure came only after a lengthy stalemate, as California is facing a budget shortfall and any lost revenue for the state is unattractive. A compromise was struck that suspends the benefit until after 2010, although losses set to expire before then would be carried forward to 2011. Only profitable companies are eligible, so biotechs failing to move into the black will not benefit. California, home to the largest biotech cluster in the world, is often seen as a leader for the biotech community, but in this case, it is behind the curve, as Connecticut, Delaware, Florida, Hawaii, Idaho, Iowa, Kentucky and Pennsylvania already provide the 20-year NOL carryover for all firms. "I think this might be the example of California trying to catch up to what other states are doing," said Patrick Kelly, vice president, state government relations and alliance development at the Biotechnology Industry Organization in Washington, DC. "This is not an instance where it is on the cutting edge or pushing the policy." *—Brady Huggett*

Biomarkers' double edge

In the current capital-scarce environment, toxicity biomarkers could prove more important for the biotech industry than for pharma, experts in the field say. At a workshop on biomarkers convened by the Forum on Drug Discovery, Development, and Translation of the Institute of Medicine in Washington, participants predicted that some biotech companies may start relying on biomarkers to decide whether to continue pursuing candidate products or terminate programs at ever-earlier stages. The slightest hint of unsatisfactory safety signals could prompt biotech firms to drop otherwise promising projects. Pharma, with deeper pockets, may be better placed to follow the drug and see if early ambiguous findings turn out to be bona fide or misleading. But if biomarker test results routinely overstate toxicities of promising drug candidates then "we haven't succeeded," says workshop participant Alastair Wood, a managing director of Symphony Capital in New York City, as this would undermine discovery efforts and deprive society of potentially valuable products. At the same time, a company could save huge sums in development costs if a biomarker flags toxicity issues early on, allowing it to terminate the project. Despite the ambiguities, Wood urges companies to fully embrace biomarkers and not to hold out for special incentives from the federal government. "If we all agree that having biomarkers will accelerate drug development, then we don't need incentives [and] don't want to be paralyzed by insisting on tax rebates or some other incentives," says Wood. *—Jeffrey L Fox*

Shire dumps Dynepo

Shire Pharmaceuticals has announced it will wind down sales of its erythropoietin Dynepo at the end of 2008. Just three years ago, Dynepo had been the cornerstone of Shire's $1.57 billion acquisition of Cambridge, Massachusetts–based Transkaryotic Therapies, which created Dynepo and several other follow-on biologics via a proprietary gene-activation manufacturing process in the early 1990s (*Nat. Biotechnol.* **14**, 1641, 1996). The commercial failure of Dynepo, as well as the slow market uptake of Omnitrope, a follow-on version of human growth hormone from the Sandoz generics division of Basel-based Novartis, raises critical questions about follow-on biologics and the characteristics they must have to succeed. The answers could give color to the kinds of companies best poised to mine these markets as they emerge.

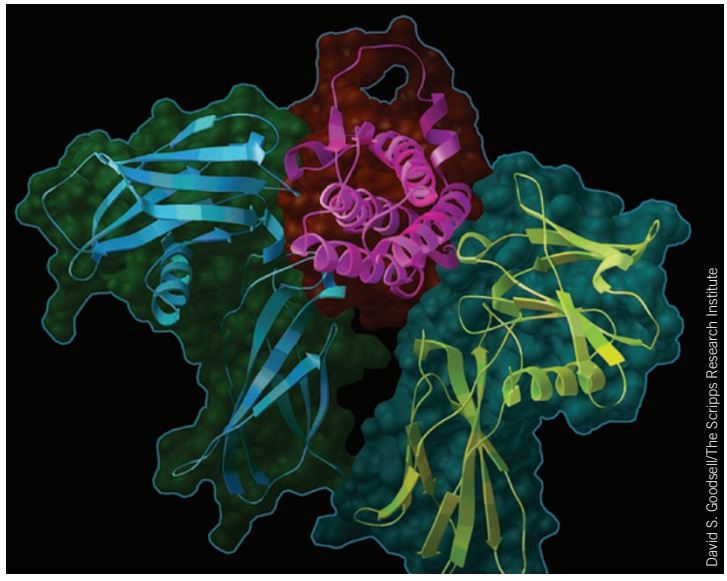
With prices for erythropoietin dropping and the marketplace crowded with relatively undifferentiated products, Hampshire, England–based Shire decided "it didn't want to wrestle in the mud" with its competitors, says Ken Cacciatore, an analyst at Cowen and Company in New York. Instead, the company opted to take a $150 million charge in the second quarter of 2008 to terminate Dynepo, a product once forecast to hit $150–200 million in sales, but which ended up bringing in a small fraction of that projection. "Basically, it's evolved into a normal generic marketplace," Cacciatore concludes. The product also had been outsourced to a contract manufacturer, and Shire was facing an additional investment to ramp-up production.

Omnitrope faces a similar problem. Two years after its approval, according to recent data from IMS Health of Norwalk, Connecticut, Omnitrope holds <1% of the market, compared with the reference product in the field, Pfizer's Genotropin, which commands a 26% market share.

Already comfortable with discounting-dominated markets and low margins, generics manufacturers, like Teva Pharmaceuticals based in Petach Tikva, Israel, are moving into the biologics space. Teva acquired Cogenesys, in Rockville, Maryland, in January of this year to get its hands on a human serum albumin–based method to extend protein half-life, and bought Irvine, California–based Sicor (formerly the biotech Gensia) in 2003, to bring in the protein manufacturing capabilities.

In a speech at the FDC-Windhover Pharmaceutical Strategic Alliances Conference in New York this September, FDC-Windhover's senior editor of *The RPM Report*, Kate Rawson, noted that generics companies are the obvious choice to enter the follow-on playing field. "They [already] have that experience in small molecules," she said. But when it comes to biogenerics, she added, big pharma possesses the requisite clinical, manufacturing and regulatory expertise—they should not be counted out. Moreover, in the US, biogenerics will not be approved by US Food and Drug Administration's (FDA) Office of Generic Drugs, but by its Center for Drug Evaluation and Research. Generics firms don't have those relationships, she pointed out.

Indeed, New York–based Pfizer's CEO Jeffrey Kindler has stated that his firm would be interested in follow-on biologics "regardless of how the regulatory [pathway] may evolve."



Human erythropoietin (red) with its two receptor molecules on either side.