on these results, they have performed site-directed mutagenesis experiments and have been able to isolate a mutant receptor with increased sensitivity to triamcinolone acetonide and reduced sensitivity to other glucocorticoids.

In summary, significant advances in the development of transcriptional activators as therapeutic agents were reported in San Diego. Functional steroid receptor chimeras with specific DNA specificities have already been generated, and we are well on the way to developing receptors with altered and specific ligand binding affinity. This technology should prove to be extremely versatile because several parameters of receptor function can be readily manipulated. In addition to controlling the specificity of receptor function, the potency of transcriptional activation can be modulated by altering the number of receptor DNA binding sites in transgene regulatory regions and/or addition of transactivation domains from other classes of activators. In the longer term, receptors specific for ligands with different stabilities and clearance times can be generated to control the extent and du-ration of transgene activation. Thus, the future looks bright for the use of steroid receptors as exquisitely specific signal transducers for gene therapy experiments.

John H. White,
Department of Physiology,
McGill University,
Montreal, Canada

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People

An increasing number of people involved in drug research are leaving established companies to strike out on their own or else are retiring from relatively secure university posts to pursue more challenging careers in industry, free from the restrictions imposed by academic life. Two good examples of this new breed have recently been in the news.

In June 1995, Dr David Barry, then President of The Wellcome Research Laboratories and member of the board of Wellcome plc, left after 18 years' service to set up Triangle Pharmaceuticals in Chapel Hill, NC, USA. Dr Barry has a BA and an MD from Yale University and spent five years at the FDA before joining Wellcome.

The staff of his new company so far consists entirely of former employees of Burroughs Wellcome, and they are concentrating their efforts on antiviral drugs. This is hardly surprising because at the FDA, Dr Barry became Acting Deputy Director of the Division of Virology and progressed to play a major role in the development of Wellcome's antiherpes agent, Zovirax^{R}. He is also coinventor of Retrovir^{R}, the first and most frequently prescribed drug for the treatment of HIV infection and AIDS.

Unusually, he is not trying to discover new drugs, but to identify promising agents discovered by other companies or institutions and take them through phases II–IV of clinical testing. According to Dr Barry, "recent advances in virology and immunology indicate that the future of therapy for serious viral diseases such as HIV infection lies in combination regimens". The company is completing agreements to acquire six novel antiviral and anticancer compounds, and several more are expected to be added to their portfolio shortly.

One of the most successful British ex-academic scientists of this breed is surely Dr Denis Stanworth. After spending his entire academic life as an immunologist at Birmingham University, UK, he retired in the autumn of 1993 to establish Peptide Therapeutics, a small biopharmaceutical company devoted to the rational design of peptide drugs. He used his experience in using synthetic peptides as probes to study the molecular pathology of certain immunoglobulins in order to develop a peptide vaccine for IgE-mediated allergies and a tetrapeptide for the treatment of rheumatoid arthritis.

Peptide Therapeutics was originally based at Aston Science Park (Birmingham, UK) but the company recently moved to much larger laboratories at Cambridge Science Park. The company published a prospectus for its flotation on the London Stock Exchange in December. It was expected to raise at least £15 million and, in fact, the final figure was £24 million. The company has announced that it will issue its 1995 report in March 1996. Dr Stanworth is Scientific Director of the company and is Special Professor in Therapeutic Immunology at the University of Nottingham, UK. Like many other Directors, Dr Stanworth has agreed not to sell any ordinary shares for a period of two years after the flotation but, when he does, he is likely to join that very select band of ex-academics who have gone on to become millionaires.

David B. Jack

CAS record

The Chemical Abstracts Service (CAS) registry, a division of the American Chemical Society, reports that the number of 1995 registrations for new chemicals was nearly 50% greater than that in 1994. For the first time in the 30-year history of CAS, more than one million new substances were recorded in a single year. Dr J.E. Lohr, CAS Director of Editorial Operations, attributes this growth, in part, to a general increase in literature and patents, but he also emphasizes the contributions of biotechnology and genome research. More than one-third of the registrations resulted from human genome research, and a further one-third were the result of work on stereochemistry and chiral drugs.

David Hughes

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