'Without the PPP between [the] University of Liverpool, Department for International Development, WHO and GlaxoSmithKline, it is very unlikely that LapDap would have been developed as a commercial drug.'

Another keen supporter of the PPP strategy is Carol Sibley, Professor of Genome Sciences at the University of Washington (http://www.washington.edu). 'The public sector supports a wonderful breadth of efforts in drug target identification and antigen definition, a variety that is unlikely to be possible in the private domain,' said Sibley.

'However, these early efforts are often truncated by the dearth in the public sector of expertise and resources required to bring projects of that kind beyond the earliest stages of development,' she said. 'The PPP makes the best of both worlds, and offers real promise for tangible drugs and vaccines for diseases that have for too long been neglected.'

Sea squirt sheds light on advanced soft tissue sarcomas

Paula Moyer, BMN News

Research presented at the 14th joint meeting of the American Association for Cancer Research, the National Cancer Institute, and the European Organization for the Research and Treatment of Cancer (AACR–NCI–EORTC; http://www.aacr.org/2003mtct.asp) Boston, MA, USA, showed that a therapy derived from a marine animal, the tunicate *Ecteinascidia turbinate*, arrests tumour growth in advanced soft tissue sarcomas and shows promise as a third-line therapy, report Spanish researchers.

The humble sea squirt

Tunicates, also known as sea squirts, are marine animals that are surprisingly close relatives of vertebrates. The study of tunicates led to the development of trabectedin (Yondelis), the agent used in the current research.

'This compound has shown promise in patients with disease progression, and therefore [might help] target tumour control and prolong patient survival,' said Luis Flores, a research physician with the company Pharma Mar (http://www.pharmamar.com) based in Madrid, Spain, which manufactures Yondelis. In findings based on several Phase II studies, his team found that the disease stabilized in over a third of patients who had been resistant to at least two previous treatments. The investigators envision using trabectedin as a third therapy in treating soft-tissue sarcoma.

Phase II trials results

In a series of Phase II studies, 183 participating patients received intravenous treatment at a dose of 1.5 mg m^{-2} over 24 hours, with the dose repeated every three weeks. Fifty-nine patients (41%) had previously received at least one line of chemotherapy with a median of two drugs and a range of 1–7. At enrollment, 96% had progressive disease. Prior to treatment, 61% were resistant to anthracyclines, 44% were resistant to ifosfamide and 34% were double-resistant The follow-up period was a median of 33 months.

1359-6446/04/$ – see front matter PII: S1359-6446(03)02997-0

Among objective responders, the median response duration was nine months for the overall group and 11 months for double-resistant patients. An objective response occurred in 8% of patients overall and in 9.5% of the double-resistant patients. An additional minor response occurred in 8% overall and in 6% of the double-resistant group. Progression occurred in 43% of the overall group and in 56% of double-resistant patients. The median overall survival was 10.3 months overall and 10.1 months for the double-resistant group.

Interesting results...

'Trabectedin has been a reasonably widely studied drug in sarcomas, particularly in patients with advanced disease,' said Robert S. Benjamin, who chairs the Sarcoma Medical Oncology Department at the University of Texas M.D. Anderson Cancer Center (http://www.mdanderson.org) in Houston, Texas, and is on the Sarcoma Panel for the National Comprehensive Cancer Network (http://www.nccn.org). 'Although the response rate is relatively low, patients seem to have fairly long periods of time to progression, so that there's some control of the rate of progression,' he said. 'This is probably an effective strategy for trying to treat these tumours.'

Jerome W. Yates, the National Vice President for Research at the American Cancer Society (http://www.cancer.org) agrees up to a point. 'The findings are interesting but not exciting,' he said. 'The biggest problem with studies done in sarcomas is that there are a variety of different diseases. To draw conclusions regarding the [feasibility of trabectedin] in soft-tissue sarcomas in the future is pretty difficult when you look at the relatively small numbers.'

Neurogenomics of mice and men

Nina Keegan, BMN News

A longstanding interest in isolated populations and population genetics has led Nelson Freimer of the University of California, Los Angeles (http://www.ucla.edu) to propose the establishment of the 'Human Phenome Project'.

Phenotype information

As the sequencing of the human genome presents the opportunity for research to identify and assign function to each identified gene, it is hoped that a similar phenome project will enable gathering of detailed information on phenotypes, to further understand genes and their behaviour. Current methods for defining phenotypes can be inadequate, and it is only by developing a more comprehensive phenotyping process that full advantage can be taken of genotyping studies.

For example, current research into the genetic contribution to disease might be held back by the inability to identify phenotypes in the genomes under investigation. It is hoped that a database of phenotypic data will help to overcome this.

One possible component of the phenome project is the integrated genetic and neurobiologic investigation of the vervet monkey (*Cercopithecus aethiops*), notes Freimer, who spoke on the topic at the *5th Brain Research Symposium* in New Orleans, USA (6–7 November 2003). Several decades of study in vervet colonies has demonstrated heritability for a range of behavioural phenotypes. The vervet colony study is equivalent to human population isolates and thus particularly powerful for genome-wide mapping of such phenotypes. Furthermore, the results should be more meaningful than those taken from a more distantly related animal to the human, such as the mouse.

Brain structures

However, these phenomic efforts in non-human primate models are still in the primary stages, and much effort is still needed to complete the full sequencing. Current research focuses specifically on those phenotypes relating to mood, temperament and anxiety. Along with his collaborators, Freimer is developing the tools to undertake full genomic analysis of the primates and to attempt to tie the findings in with much broader information on the specific phenotypes. For example, by undertaking brain

 PII: S1359-6446(03)02998-2