

## News in brief

### Targets and mechanisms

#### Chromium as new treatment for depression

Chromium supplements have been used successfully for treating depression. In an article in the December 2000 issue of the *International Journal of Neuropsychopharmacology*, researchers from the University of North Carolina (Chapel Hill, NC, USA) treated eight patients that have a history of severe refractory mood disorders with chromium. The study comprised single-blind trials, in which the patient did not know whether they were receiving chromium. In all of the patients who received chromium supplements, a dramatic improvement in symptoms was observed, including a reduction of the increased appetite and carbohydrate craving that typifies such mood disorders. Side effects were rare and mild and included enhanced dreaming and mild activation.

It is thought that the trace element chromium could affect the chemical messengers that are involved in mood regulation. Chromium has previously been reported to modulate carbohydrate metabolism and increase the efficiency of insulin utilization. It might be significant, therefore, that one of the patients in this latest trial who responded favourably to chromium treatment had adult-onset diabetes. These latest findings follow previous reports that chromium supplements are effective when used to complement conventional antidepressant therapies, and is the first case where chromium has been shown to be effective as a single agent.

#### Avocado proves fruitful against liver damage

Extracts of the avocado pear could protect against hepatitis-induced liver damage, a recent report suggests. Hepatitis C can cause permanent liver damage, which can lead to hepatocellular carcinoma and liver failure. Scientists have been attempting to limit the liver damage caused by the virus, and have suggested that certain types of tea might be effective.

At the *International Chemical Congress of Pacific Basin Societies* (Pacifichem 2000, 14–19 December 2000, Honolulu, HI, USA), researchers from Shizuoka University (Tokaido, Japan) induced liver damage in rats, which was comparable with hepatitis-induced damage, and studied the effect of feeding 22 different fruits. Five compounds were identified that were beneficial in reducing the induced liver damage, the most potent being an extract of the avocado pear. Avocado pears are renowned as a good source of vitamins E and C, potassium and folic acid, in addition to being fibre-rich. However, the researchers have not identified either the active ingredient of the avocado that reduces liver damage, or its mechanism of action. Moreover, the effects in rats might not be relevant to humans. These latest findings could help to stem the damage induced by hepatitis C; however, patients are often unaware that they have the virus until serious damage has occurred. Therefore, the therapeutic benefits of avocado extracts might be too little, too late.

### Mergers and acquisitions

#### Extension of DNA microarray product line

Virtek Vision International (Waterloo, Ontario, Canada) has acquired the biotechnology business of Engineering Services Inc. (ESI; Toronto, Canada) for their automation technologies and, in particular, their DNA microarrayer. Virtek will pay US\$3 million in cash and US\$3 million in stock for the biotechnology business, as well as a royalty of 4% sales for five years in consideration for non-competition agreements for this period.

The microarrayer was launched in 1999 and has sold over 40 units, with a current sales backlog of approximately US\$1.5 million, which will also be acquired by Virtek. Jim Crocker, President and CEO of Virtek said: 'The arrayer perfectly complements our ChipReader DNA reader and brings us closer to providing the complete solution that researchers need to acquire and evaluate important data from raw data.' In addition to the arrayer, Virtek

### Markets

#### Taiwan biotech industry expanding

Recently, Taiwan's biotech industry has been rapidly expanding, and has been helped in part by the allocation of more than US\$600 million by the government in a series of programs for the biotech field. Furthermore, in 1999, the Cabinet promised a further US\$4.85 billion for the biotech industry over the next five years.

Currently, the Taiwanese biotech industry holds 3% of the global biotech market and the Chinese Ministry of Economic Affairs (MOEA) claims there are more than 100 private and government-owned enterprises in Taiwan directly involved in the industry.

This is prompting interest from many biotech companies from around the world. For example, GeneMaster Lifesciences Co. Ltd are planning their main marketing effort for their new biochip to the Taiwan and mainland China markets.

The biochip uses technology developed by Academia Sinica (Taipei, Taiwan) and utilizes nylon instead of silicon as the chip's main component.

Rick Kalwani, CSO of GeneMaster, said that: 'Our technology based on the nylon membrane will bring costs down so it can be more widely used by the public.' He also claimed that the nylon chips can be used three times before being replaced, whereas the silicon chips can only be used once.

The Austrian Business Agency (ABA) has also held discussions with the MOEA about how biotech firms in the two countries can join forces to develop new technologies.

The MOEA Biotech program Director, Elan Liao, said: 'Development of new technologies will accordingly create a new virgin market, of which the business opportunities will be greater than you can imagine.'

will also acquire other new products developed by ESI, such as the colony picker, as well as a small desktop arrayer and a colony arrayer that are soon to be launched.

### Acquisition of high-speed centrifuge company

Kendro Laboratory products (Newtown, CT, USA) has acquired the centrifuge designers and manufacturers, CARR Separations (Franklin, MA, USA) under undisclosed terms. CARR's product line, marketed as Powerfuge® Separation Systems, includes an extensive line of bioprocessing centrifuges for separation and purification of cellular-based and subcellular-based products.

Marc N. Casper, President and CEO of Kendro, said that through CARR's relationships with global life-science companies, this acquisition will provide opportunities to market other Kendro product lines to a much wider range of potential customers. In turn, he said that 'CARR will benefit from a stronger financial position in working with existing customers and new customers.'

## Miscellaneous

### Irritable bowel syndrome drug Lotronex withdrawn from sale in US

GlaxoWellcome (Research Triangle Park, NC, USA) is to voluntarily cease sales of its prescription drug Lotronex® (alosetron HCl) for the treatment of women with diarrhoea-predominant irritable bowel syndrome, it was announced recently. The US Food and Drug Administration (FDA) requested the move after rare reports of fatalities in users caused by complications of gastrointestinal events, although no causal relationship with Lotronex has been established. Prior to the FDA request, GlaxoWellcome proposed a series of measures to address safety concerns regarding the drug – further modification of the drug's label, restricting its distribution, conducting on-going patient education, carrying out new clinical and epidemiological research and employing an independent medical review board. However, the FDA did not deem these adequate to prevent withdrawal.

## Clinical trials

### Early release of trial results could harm patients

A recent study suggests that releasing medical trial results prior to journal publication can alter the way doctors practice, which might then not be in line with the detailed research results published later. The study was carried out by researchers at the US Agency for Healthcare Research and Quality (AHRQ; Rockville, MD, USA) and the Yale (New Haven, CT, USA) and Johns Hopkins universities (Baltimore, MD, USA), and were published in the *Journal of the American Medical Association*<sup>1</sup>. The authors of the study tracked the use of carotid endarterectomy (CEA; a surgical procedure for clearing diseased carotid arteries) in two clinical trials. Both trials had been halted early and results released by the National Institutes of Health prior to journal publication because life-saving benefits were found.

The results were disseminated to doctors using clinical alerts and resulted in a ~18% increase in CEA use over a six-month period following the first alert release (in 1991), and then diminished to 0.5% after the trial findings were published later in the year. The release of the clinical alert on the second CEA trial (in late 1994) led to a 42% increase in CEA use over the following seven months, which then dropped to 0.3% after publication of the results in mid-1995.

Both alerts cautioned doctors that the studies involved only patients under 80 years of age and were only conducted at medical centers with documented expertise in CEA (a highly complex procedure). However, the study found that the use of CEA following the alerts was greater among patients over 80 years of age and that many patients were referred to hospitals with less experience of the use of CEA. Furthermore, following journal publication of the trial results, there was a greater decrease in CEA use among patients who were 80 years of age or older.

Claudia Steiner of the AHRQ suggested that: 'Future research could focus on how clinical alerts might be structured to preserve their advantage while avoiding any potential downside.'

- 1 Gross, C.P. *et al.* (2000) Relation between prepublication release of clinical trial results and the practice of carotid endarterectomy. *J. Am. Med. Assoc.* 284, 2886–2893

### NIEHS establish toxicogenomics program

The National Institute of Environmental Health Sciences (NIEHS; Research Triangle Park, NC, USA) of the National Institutes of Health has established a new program that will apply their new DNA microarray (ToxChip) to the study of toxicogenomics of environmental pollutants. The program will be run by the National Center for Toxicogenomics (NCT; part of the NIEHS) and is hoped to identify how the human genes interact and respond during different states of health, disease and challenges from toxicants.

This knowledge will also speed up regulatory decision-making based on toxicity test results, says Kenneth Olden, Director of NIEHS. He says, 'We will be able to reduce the time it takes to test potential carcinogens from 2–3 years to a few days and reduce the cost of such studies from US\$2–3 million to less than US\$500.' Olden also predicts that these technologies

will greatly reduce or eliminate the need to use laboratory animals. The NCT hopes to use proteomics to find biomarkers of toxicity for the identification of exposure of an individual to specific toxicants.

### Fred Hutchinson Center raises more than US\$4 million for cancer

The 25th Anniversary Hutch Holiday Gala, held annually by the Fred Hutchinson Cancer Research Center (Seattle, WA, USA), raised more than US\$4 million. This unprecedented sum was raised at the charity auction to help in the Center's fight against cancer. More than half of this sum was raised by an offer to match the US\$1.1 million raised during a 15 min bidding period.

News in Brief was written by  
Joanna Owens and  
Rebecca N. Lawrence