

## JAPAN ROUNDUP

The DNA sequence of the structural gene for rat pancreatic peptide has been determined by scientists at Kissei Pharmaceutical Industries (Matsuyama City), working in collaboration with Hiroshi Okamoto's research group at the Medical Sciences Department of Tohoku University. Pancreatic peptide is thought to play a role in reducing appetite and various aspects of digestion (intestinal peristalsis, lipid absorption, and secretion of gastric acid and pancreatic enzymes) by acting on the hypothalamus. Injection of pancreatic peptide into a strain of obese rats reduced feeding and the absorption of fat. The next step will be to use the cloned gene to search for compounds that induce the synthesis of pancreatic peptide *in vivo*.

Scientists at Asahi Chemical Industries (Tokyo) have developed an enzymatic method for converting cephalosporin C into 7-aminocephalosporate (7-ACA), an important precursor for synthetic cephalosporin

antibiotics. The technique, which achieves final yields of greater than 80 percent, uses the yeast enzyme D-amino acid oxidase to convert cephalosporin C to glutamyl-7-ACA, and the *Escherichia coli* enzyme glutamyl-7-ACA acylase to convert glutamyl-7-ACA to 7-ACA.

Shionogi & Co. (Osaka) scientists have determined the DNA sequence of the structural gene for lipocortin, a protein that could prove useful for controlling tissue inflammation and may play a role in tumor metastasis. Lipocortin inhibits the enzyme phospholipase A-2, which catalyzes the first step in the synthesis of prostaglandins and other compounds that promote inflammation. Biogen (Cambridge, MA) had first cloned the cDNA encoding human lipocortin, but Shionogi opted to isolate the rat gene in order to facilitate animal experiments.

Two companies have announced progress in the production of human

nerve growth factor (NGF), a 13,000-molecular-weight protein essential for the survival of several classes of peripheral nerves.

Scientists at Mitsubishi Kasei Life Sciences Institute (Tokyo) produced an NGF-secreting yeast strain by fusing the structural gene for human NGF to an efficient synthetic promoter and attaching the secretion signal sequences of a toxin normally produced by "killer" yeast strains.

Taking a different approach, scientists at Yoshitomi Pharmaceutical Industries (Osaka), working in collaboration with the National Center for Psychiatric and Neurological Research, have used screening to discover two catechol derivatives that stimulate NGF production by astroglia cells. Company researchers plan to synthesize and test a number of these derivatives in order to increase the efficiency of NGF induction.

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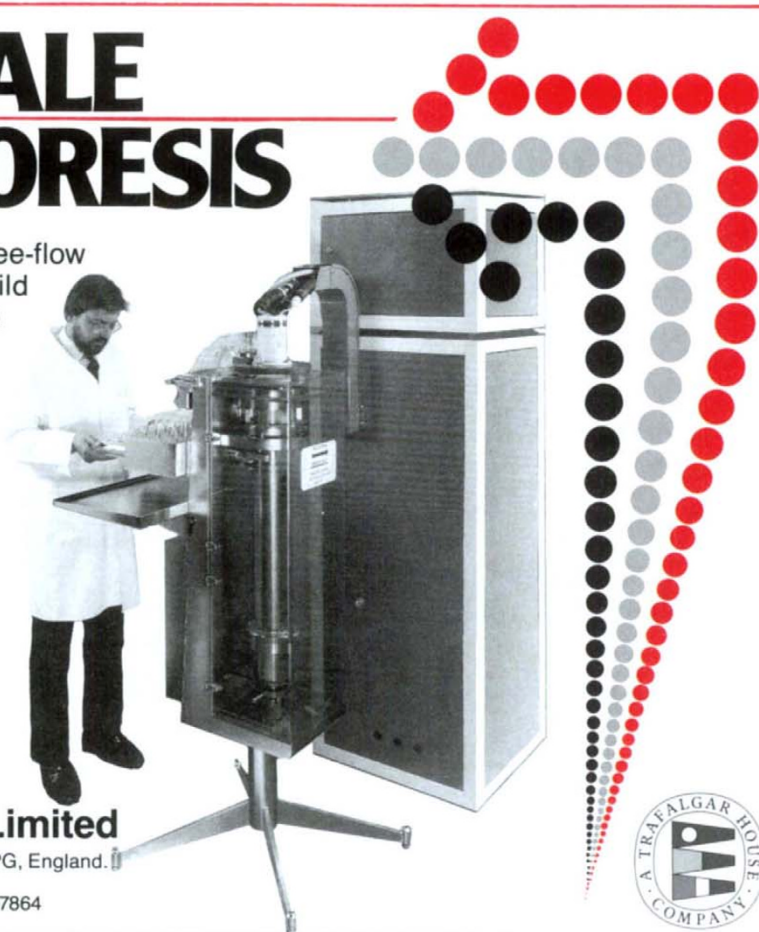
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