JAPAN ROUNDUP

A novel polypeptide antibiotic that is effective against a wide variety of fungi has been discovered at the Biological Sciences Research Laboratories of Lion Corp. (Tokyo). Lion Corp., a major detergents and toiletries manufacturer, has recently diversified into pharmaceuticals. Isolated from a strain of *Bacillus polymyxa*, the new antibiotic is being studied by Lion researchers in collaboration with Tadashi Arai at the Eukaryotic Microbiology Research Center at Chiba University. It has been shown to be effective against a wide range of fungi, including those that cause ringworm and athlete's foot, as well as species of *Candida* and *Trichomonas*. The product, designated L1-F, kills fungi by causing their cell walls to lyse, but its exact mechanism is not known.

Researchers at Oji Paper's (Tokyo) Forestry Research Center, working in collaboration with scientists at the Mitsui (Tokyo) Plant Biology Research Center and Itaru Tatebe at Nagoya University, have developed a

method for introducing foreign DNA into tobacco cells by electroporation. The team regenerated whole tobacco plants from single cells that had taken up the gene for resistance to the antibiotic kanamycin. Oji Paper next plans to use the technique to introduce foreign genes into poplar trees.

Teijin Ltd. (Osaka), a major textiles company that has diversified into healthcare, has started selling a diagnostic kit for the early detection of blood clotting disorders such as disseminated intravascular coagulation. The enzyme-linked immunosorbent assay (ELISA) uses a monoclonal antibody to detect the complex that forms between the enzyme plasmin and the peptide α -2-plasmin inhibitor. α -2-plasmin inhibitor controls blood clot dissolution by binding to and inhibiting plasmin, a protease that dissolves clots by cleaving fibrin. Believed to be the first commercially available kit of its kind, the new diagnostic was developed in collaboration with Nobuo Aoki at the Tokyo College of Dentis-

try and Medicine. The assay requires only 10 microliters of serum, is very specific for the plasmin/inhibitor complex, and is sufficiently sensitive to detect 0.3 to 40 micrograms of complex per milliliter.

Unitika Inc. (Osaka), another Japanese textiles-based company diversifying into medical products, is now marketing an artificial skin containing chitin isolated from the shells of shrimp and crabs. Unitika researchers have developed a special process to convert chitin powder into long threads 2 microns in diameter. These threads are then used to fabricate a 200-micron-thick non-woven cloth that provides a smooth, non-pyrogenic surface for skin regeneration. The company expects annual sales in Japan to reach some \$4 million within three years.

Prepared by Hal Plotkin and Ken Coleman, Biotechnology in Japan Newsservice, Japan Pacific Associates (Palo Alto, CA).

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