Yeasts to Break Up PCB Discovered

There are some species of yeasts that decompose polychlorinate biphenyl (PCB), a horrible substance causing environmental pollution which has been believed unaffected under ordinary condition, reported Yoshio Sakagami, Tokyo Institute of Technology. His discovery is expected to be a key to the question of expanding PCB contamination of late.

Analysis of milk samples from 10 women who have given birth within the past three months revealed the presence of the chemical ranging from 0.08 to 0.31 ppm with an average of 0.12 ppm. School children suffering from PCB poisoning in Japan have had their growth stunted, it was learned recently.

It was also found that poisoned pupils had more decayed teeth.

Two species of yeasts discovered by Sakagami are: Rhodotorula sp. obtained from the soil of Ibaraki Prefecture and Pityrosporum sp. from the soil of Higashi Murayama, Tokyo.

These yeasts were cultured in the solutions containing 2,500 ppm of PCB. After one-week culture, the chemical was decomposed by 40% in Rhodotorula solution and 30% in Pityrosporum solution.

Few microorganisms can affect artificially synthesized substances such as PCB, and these harmful chemicals are increasingly accumulated on earth. Sakagami for five years dedicated himself to the study on decomposition of vinyl chloride and other synthetic matters by microorganisms. Among some 1,000 species of microorganisms and fungi collected from soils of different spots, he could find the two yeasts that "eat" PCB.

Mechanism of decomposition, result of the chemical reaction and toxicity of the substance obtained after decomposition are not clarified yet, Sakagami said.

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Simple Therapy of Tonsillitis Found

A professor developed a simple method of treatment of tonsillitis with use of an electric iron.

According to the method reported by Shinji Hirano, Department of Otorhinolaryngology, Hokkaido University School of Medicine, the diseased tissues of the lymphatic glands are burnt out without surgically removed. (The surgical removal is often accompanied with fatal shocks to patients or serious bleeding.)

A conventional method of treatment other than debridement is pharmacotherapy using antibiotics, antiplasmine or vitamin C. This method, however, proved to have only temporary

put on the lesion to burn it out. The temperature of the cautery can be adjusted depending on the size and condition of a lesion.

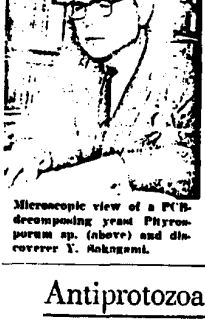
The treatment in this method is so simple that it is finished in less than a minute regardless of the size and condition of a lesion.

Hirano applied his method in the treatment of more than 110 cases for one year and as a result, the symptoms of inflammation have completely disappeared in all the cases within 10 days.

Following the treatment some patients have developed fever up to 38°, which disappeared in a p. Only a few patients a recurrence, Hirano

he was not sure about uch treatment works ed that the cauterisstissue might trigger a n of the destroyed a normal way.

Kyodo Photo Service



Microscopic view of a PCB-decomposing yeast Phyrrosporum sp. (above) and discoverer Y. Sakagami.

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Antiprotozoan Antibiotic

Ikarugamycin

Ikarugamycin is a new antiprotozoan antibiotic reported by K. Jomon and others, Fujisawa Pharmaceutical Co., Ltd., at the 15th meeting of JARA, September 1971.

It is produced by Streptomyces phaeochromogenes var. Ikarugamensis No. 9021 strain in a medium containing 2% starch, 2% Pharmamedia, 1% corn steep liquor and 0.3% calcium carbonate. After 48-hour fermentation at 30°, Ikarugamycin is extracted from the mycelium with chloroform

11, dissolved tetrahydrofuran acidic water to ed with acetone, and dissolved in chloroform to crystallize.

Ikarugamycin is obtained as white needle crystals, $C_{35}H_{50}N_4$ mp 252–255° (decompl. It is

LD$_{50}$ in mice being mg/kg respectively, it toxic intraperitoneal venously, LD$_{50}$ in mice and 2 mg/kg respectively is observed at 2

The toxicity of this was remarkably reduc hexahydro derivative, the activity also decreased considerably.

Hexahydroikarugamycin inhibits Trichomonas 0.25 γ/ml and 1 peritonitis at 5 LD$_{50}$ (mg/kg) a low as not orally o mously, not intraper

MONS 066984

$C_{35}H_{52}N_4$, mp decompl. [α]$_D$ DMF), under formamide, chloroform,