Effect of Antibiotics on Mycelial Growth of *Pythium porphyrae* on Culture Medium (Short papers)

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Cultivation of red algae "nori" *Porphyra* spp. is an important fishery industry of Japan[1]. Red rod disease caused by *Pythium porphyrae*, is one of the most serious disease on nori culture. The disease has been known as Akagusare -byo and occurred in the nori culture farms troughout Japan. Although *P. porphyrae* has been isolated from disease thalli purely cultured *in vitro*[2]. Antibiotics which inhibit the development of undesired microorganisms but exert little or no effects on the pathogen has not been known. We therefore examined effects of antibiotics on mycelial growth of *P. porphyrae* to develop an effective selective medium for the pathogen..

Four isolates of *P. porphyrae* used in this study were isolated from laver of nori causing red rot disease in October 31, 1995 in the Ariake Sea. The isolates were cultured on corn meal agar(CMA)which adjusted to asalinity 20‰, pH 7.8 and 1.5% agar concentrationprepared by the method described by Sasaki and Sato[3].The cultures were incubated and maintained at 18℃ with12hr light (1,000lux) and dark cycle. Agar plug (5 mm diameter)from the edge of mycelium grown for 7 days on CMA plates(9 cm plastic petri dish)were used for the inoculation.. Twelve antibiotics (Wako pure chemical industries, Tokyo) and their concentrations in the medium were shown in Fig. 1. Sterile distilled water solutions of the each antibiotics were added to the CMA medium at the desired concentrations when the medium was autoclaved and cooled to 42℃. Maximum length of colony diameter was measured after incubation for 10 days at 25℃, and the mean growth rate (mm/day) was calculated for each isolate.

Gentamicin sulfate, Kanamycin sulfate, Streptomycin sulfate and Tetramycin hydrochloride apparently inhibited mycelial growth of *P. porphyrae*. Nystatin, Amphotericin B, Fraddiomycin sulfate, Bacitracin and Rifampicin had slight inhibition to the mycelial growth. Vancomycin hydrochloride, Penicillin G potassium, Ampicillin anhydrous had not inhibition to the mycelial growth(Fig.1). The results suggest that CMA amended by 100 ppm of Vancomycin hydrochloride, 100 ppm of Penicillin G potassium and 100 ppm of Ampicillin anhydrous(CMVPA) is available for isolation of *P. porphyrae*. Althogh isolation of *P. porphyrae* from seabed soil has not been succeeded by direct inoculation of tne soil on CMVPA(Kawamura et al., unpublished result), the results will be useful for the future development of the selective medium for isolation of *P. porphyrae*.

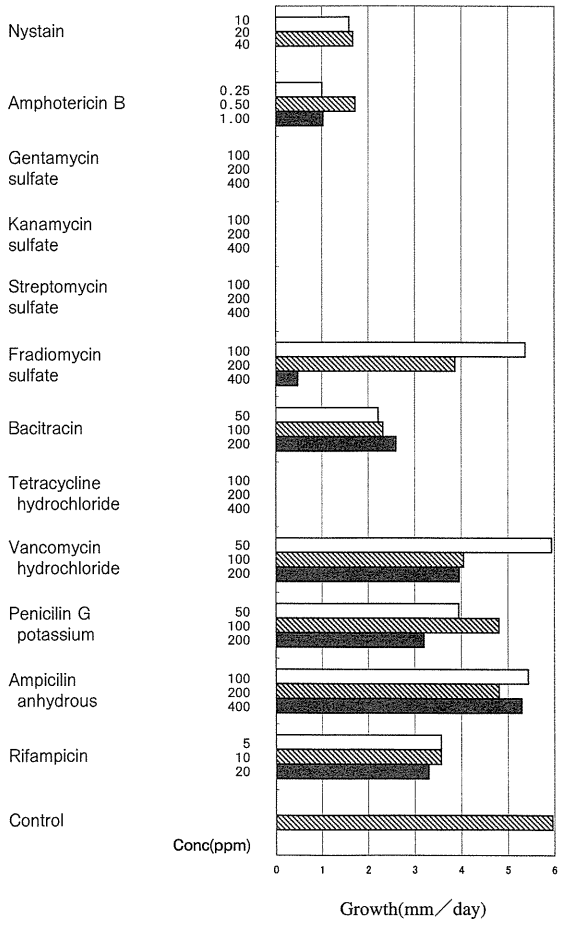

Fig.1 Effect of antibiotics on the mycelial growth of P.*porphyrae*

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Literature cited

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