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Bacteroides stercoris HJ-15, which is a human colon gram-negative rod cell, has been known to degrade heparin, acharan sulfate and chondroitin sulfate. The many of GAG degrading enzymes were purified and characterized from several sources. GAGs play biologically important roles in the extracellular matrix(ECM). Recently it has been reported that ulcerative colitis was affected by degradation of GAG in human colon. To understand induction of GAGs degrading enzymes in *B. stercoris* HJ-15, it was cultured in 10L of tryptic soy broth containing GAG as sole carbon source and compared with total activity of GAGs degrading enzymes. When GAGs were used as carbon sources instead of glucose, the productivity of the GAG degrading enzymes increased two to five times.

[PC2-5] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Antifungal activity of chitinase from Streptomyces sp. Mong-20.

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Identification of soil microorganism strain Mong-20, a producer of chitinase and antifungal substance, based on its morphological, biochemical and chemotaxonomical characteristics was performed. The strain Mong-20 was identified as *Streptomyces*. The chitinase was produced by this strain in medium containing 0.1% soluble chitin as sole carbon and nitrogen source and antifungal substance against *Botrytis cinerea* was produced in medium containing glucose and sodium glutamate. Mong-20 incubated at 28℃for 9 days. The antifungal activity was stable from pH3 to pH9 and not reduced > 50% after heating at 100℃ for 10 min. Growth of the strain growth was resistant to ampicillin at 1mg/ml and tetracycline at 30ug/ml. The antifungal substance was extracted with BuOH and EA. The synergistic effect of chitinase and antifungal substance was determined.

[PC2-6] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]

Regulation of extracellular N-acetyl-D-glucosaminidase production in the Streptomyces sp. 200803

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Streptomyces sp. 200803 produces extracellulae N-acetyl-D-glucosaminidase(NAGase) in liquid medium containing colloidal chitin as the sole source of carbon and nitrogen. To study the regulation of NAGase, N-acetyl-D-glucosamine(GlcNAc),glucose,NH_4NO_3,NH_4Cl, $(NH_4)_2SO_4$, yeast extract or amino acids were added to the colloidal chitin medium and NAGase activity was measured. NAGase synthesis was induced with 0.3 % chitin and repressed to the levels that were 62 < % of the control levels when 0.3 % yeast extract was provided to the colloidal chitin medium. NAGase activity levels were 1800 > % of the control when 0.3 % chitin and 0.3% glucose were tested It appears that synthesis of NAGase is sensitive to cell energy and the carbon and nitrogen requirements. The optima culture conditions for the production of NAGase was pH 6.0 and 30°C. But the optimal conditions for NAGase assay was pH 6.0 and 55 °C. The synthesis of NAGase synthesis was blocked by both 8-hydroxyquinoline and cycloheximide, inhibitor of RNA and protein synthesis

[PC2-7] [04/19/2001 (Thr) 15:30 - 16:30 / Hall 4]