

B305 Isolation and Characterization of Fe-Reducing Bacteria

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Fe(III) reduction by metal reducing bacteria is important in a biochemical cycle. Because it is a model of oxidizing organic compounds and reducing toxic heavy metal, such as chrome or uranium. Total 39 strains having Fe-reducing activity were isolated from sediments of lake Soyang and Chunho reservoir and paddy soils at Daeho. All of the isolates were tested for Fe(III) reducing activity. Strain C2 and C3 isolated from sediments of Chunho reservoir showed highest activity. These strains were confirmed to use a various electron donor such as glucose, yeast extract, acetate, ethanol and toluene. The 16s rRNA sequences of strain C2 and C3 were matched *Aeromonas hydrophila* (over 90%).

B306 **Microbial Communities of Forest Soil and Groundwater Source in the Abandoned Coal Mine Area**

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The number and diversity of bacteria in contamination of forest soil, stream water and ground water sources by the acid mine drainage originated from the abandoned coal mine were investigated. The pH, sulfate and chemical compositions in the soil and water were analyzed. At the polluted sites, the pH of soil and stream water were strong acid, ranging from 3.5 to 4.9. High numbers of sulfur bacteria($>10^5$) were found in not only polluted soil and stream sediment, but also ground water. Members of the pigment forming bacteria were the most abundant group in the polluted stream and ground water. From the dilution plates, 28 pigment forming bacteria were isolated and their characteristics were examined. The isolates could be divided into 4 groups.