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Degradation of dibenzothiophene (DBT) by *Desulfovibrio desulfuricans* M6

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Desulfovibrio desulfuricans M6 was used to optimize the DBT degradation. The most suitable reaction mixture for the DBT degradation was 1-3 mM of DBT in sulfate-free Postgate C medium (pH 7.0) added by the dry cell of 0.5-1.2 g · L⁻¹, and 1/100 volume (v/v) of *n*-dodecane. The gas phase of the reaction mixture was replaced by hydrogen at 1.5 atm before incubated at 37-40°C for 50 hours. And it was more effective to supplement hydrogen after 50 hour culture and incubate for another 20 hours.

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Bacillus licheniformis outbreak in rainbow trout

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Here we report a disease outbreak in rainbow trout due to *Bacillus licheniformis*. From March to June in 1996, there was a severe disease outbreak in rainbow trout in several fish farms in Kangwon province. Symptoms of the disease were various: exophthalmia, dark body coloration, ulcerations on the dorsal and caudal fins, yellow mucus and haemorrhage in intestinal tract, and paleness in liver. Thirteen strains with characteristic mucoid appearance on BHIA were isolated from kidney, liver, brain, and heart of ill trout. All of these isolates were identified as *B. licheniformis* with various biochemical tests and fatty acid analysis, even though each isolate showed differences in gelatin hydrolysis and susceptibility to antibiotics. When isolates were administered to rainbow trout by immersion, fish died after 3 days and the same bacteria were recovered from liver and kidney. When ill fish were fed with formalin-fixed *B. licheniformis*, mortality decreased sharply without antibiotic treatment. *B. licheniformis* is known as a pathogen in immunocompromised hosts or in patients with cancer and central venous catheters, sometimes found in milk and beef, and causes abortion in cow. Since an etiological study showed that these isolates were originated from feed, we concluded that this was originated from beef byproducts added to feed.