

Isolation and characterization of *Enterobacter sp.* SNU-1453 which has a high potential as a fermentative H₂ producer

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The hydrogen producing bacterium was isolated from several domestic landfill areas and identified as *Enterobacter sp.* SNU-1453. Important parameters investigated include pH, temperature, concentration of initial glucose, and kind of sugars. The pH of the culture medium significantly decreased as fermentation proceeded due to the accumulation of various organic acids, and this inhibited the H₂ production seriously. When pH was controlled at pH 7.0, hydrogen production was 2614.5 ml/l in 17 hours. The increase of glucose concentration resulted in higher H₂ production. The productivity of this strain was 6.87 mmol H₂/l per hr on concentration of 25g glucose/l. *Enterobacter sp.* SNU-1453 could utilize various sugars. These results indicate that *Enterobacter sp.* SNU-1453 has a high potential as a fermentative H₂ producer.