

**Ethanol production from glycerol by *E. aerogenes***

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Biodiesel production has been increased and the investigation based on waste glycerol generated from biodiesel production has been spotlighted. As biodiesel production increases, the cost of waste glycerol continuously decreases. For securing affordability of biodiesel production, it is necessary to convert cheaper waste glycerol to higher value-added materials. Waste glycerol contains various compounds such as ash, salts (KCl and NaCl), unreacted fatty acids, and MONG (matter of organic non glycerol). In this study, the fermentations in synthesis medium containing pure glycerol or crude glycerol by *Enterobacter aerogenes* were carried out to confirm ethanol production. *E. aerogenes* consumed almost glycerol and converted glycerol to ethanol. Ethanol production come close to the theoretical yield. We will present individual inhibitory effect of KCl, NaCl, osmotic pressure (glycerol), and MONG on cell growth and ethanol production.