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**Production of L-lactic acid from soluble starch
by *Enterococcus* sp. JA-27**

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Lactic acid has long been considered for the production of biodegradable poly lactic acid(PLA). For lactic acid fermentation, it is also possible to use renewable resources, such as starch in fermentative production. Lactic acid Bacteria with amyolytic and acid producing activity can be to ferment starch directly to lactic acid thereby reducing the production cost. The strain producing L-lactic acid from soluble starch was isolated from Nuruk. The isolated strain was identified as *Enterococcus* sp. through its morphological, cultural, biochemical characteristics as well as the 16S rDNA sequence analysis, and named *Enterococcus* sp. JA-27. *Enterococcus* sp. JA-27 produced exclusively L-lactic acid from soluble starch as carbon source. The optimal conditions for the maximum production of L-lactic acid from *Enterococcus* sp. JA-27 were 30°C, pH 8, 1.5% D-xylose as a substrate and 2% tryptone as a nitrogen source, 0.1% K₂HPO₄, 0.04% MgSO₄ · 7H₂O, 0.014% MnSO₄ · 4H₂O, 0.004% FeSO₄ · 7H₂O. Batch and fed batch culture were carried out and batch culture was more effective. L-lactic acid production in the above suggested medium was significantly increased in a 7L Jar fermenter, where the maximum L-lactic acid concentration was 3g/L. For the purification of lactic acid in fermented broth, two stage ion-exchange column chromatographies were employed and its product were determined by HPLC.