

时,菌体生物量和酶活达到最大值,可获得 134.5 U/mg 的酶活力。继续培养酶比活力有所下降,为了获得最大酶活力,在 40 h 时停止培养。

3 结 论

通过逐渐增加培养基中丙烯腈的浓度重复继代培养的方法,成功的选育出 1 株酶活为 79.8 U/mg 的腈水合酶高活力菌株,编号为 YL-2。

产酶条件的最优组合为:葡萄糖的初始浓度为 20 g/L,诱导剂脲的添加量为 0.06 g/L, Co^{2+} 加入量为 0.3 g/L,培养温度为 30℃,pH 7.0,在优化条件下,YL-2 的酶活可达 134.5 U/mg,较优化前提高了 69%。

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Domestication of a Nitrile Hydratase Producing Strain and Optimization on Its Nitrile Hydratase Producing Conditions

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ABSTRACT A bacterial strain having higher nitrile hydratase activity and acrylonitrile concentration tolerance, numbered *Rhodococcus* sp. YL-2, was developed by repeated subculturing of *Rhodococcus* sp. YL-1 in the broth containing acrylonitrile with slightly increased acrylonitrile concentration. The specific nitrile hydratase activity of YL-2 increased up to 79.8 units/mg of dry cells, 1.8 times higher than that of YL-1. The nitrile hydratase producing conditions were studied and optimized. The results showed that the factors influencing nitrile hydratase activity mostly were glucose, urea, Co^{2+} and pH. Initial pH of broth was 7.0. After culturing 40 hours at 30℃ in broth containing 20g/L glucose 0.06 g/L urea 0.6 g/L Co^{2+} , the nitrile hydratase activity of YL-2 can reach 134.5 units/mg of dry cells, 1.68 times higher than that of before optimization.

Key words nitrile hydratase, *Rhodococcus* sp., domestication, nitrile hydratase producing conditions

信息窗

日本一公司为患干渴症的病人开发“喷雪饮料”新品

口腔干燥已成为影响人们健康的一大问题。其主要表现为口腔和咽喉感到异常干渴,必须经常摄取水分,结果却会由于补充水分过多,导致体内水分平衡遭到破坏。日本基赛依药品工业公司保健品事业部近日开发了一种可以缓和口腔干渴症状和保持体内适当水分平衡的喷雾饮料新产品——“保湿润柠檬”,投放市场后受到消费者的广泛欢迎。

“保湿润柠檬”是采用喷雾法来保持体内湿润,以解除口腔及咽部的干渴症状。其中透明质酸是保持体内湿润的主要成分。此饮料产品无刺激性,反复喷雾多次也不会产生任何问题,喷雾 5 次仅相当于 1mL 水分,但却能使患者取得大大超过该数值水分的湿润感。其优点是减少了水分摄取量,保持了身体的适当水分摄取量。