

RESEARCH NOTES

L-瓜氨酸酶法制备中精氨酸脱亚氨酸酶的活性与稳定性研究

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摘要 A novel Enterococcus faecalis strain designated N J402 was found with high activity of arginine deiminase (ADI). The optimum condition for catalytic activity was determined in terms of temperature (about 40°C), thermostability (available 37°C) and pH (6-7). The effects of substrate and product concentration were studied. The effects of various metal ions added in reaction mixtures on the biocatalyst were investigated and ADI of N J402 was found to exhibit Co²⁺ dependence, different from previous reports. Surfactant, cetyl trimethyl ammonium bromide, was one of the most important keys for producing L-citrulline. The enzyme in resting cells possessed the quality of high stability for reuse.

关键词 L-瓜氨酸酶, 制备方法, 精氨酸脱亚氨酸酶, 活性, 稳定性

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Activity and Stability of Arginine Deiminase for Producing L-citrulline

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Abstract A novel Enterococcus faecalis strain designated N J402 was found with high activity of arginine deiminase (ADI). The optimum condition for catalytic activity was determined in terms of temperature (about 40°C), thermostability (available 37°C) and pH (6-7). The effects of substrate and product concentration were studied. The effects of various metal ions added in reaction mixtures on the biocatalyst were investigated and ADI of N J402 was found to exhibit Co²⁺ dependence, different from previous reports. Surfactant, cetyl trimethyl ammonium bromide, was one of the most important keys for producing L-citrulline. The enzyme in resting cells possessed the quality of high stability for reuse.

Key words L-citrulline; L-arginine; arginine deiminase; activity; optimization

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