pH shock effect on geldanamycin production by *Streptomyces hygroscopicus* subsp. *duamyceticus*

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Various sequence of pH change were applied in a batch bioreactor to investigate pH shock effects on geldanamycin production by *Streptomyces hygroscopicus* subsp. *duamyceticus*. In the control culture where the pH was not controlled the maximum geldanamycin concentration was 414 mg/L. The maximum concentration in the pHstat culture, where pH was controlled at 6.9 ~ 7.0, was 317 mg/L. With pH shock 1 (pHS1) in which the pH was changed sequentially from pH 6.7 to pH 5.0 and then back to pH 6.0, 429 mg/L of geldanamycin was produced. With pHS2, that is, an abrubt pH change from pH 6.5 to pH 5.0, 768 mg/L of geldanamycin was produced. With pHS3 having a sequential pH change from pH 6.0 to pH 4.0 and then back to pH 6.5 followed by the second pH shock to pH 5.0, no geldanamycin production was observed. Considering that the productivity with pHS2 was about two fold of that of the control culture with no pH control, we concluded that a more sophisticated manipulation of pH would further promote geldanamycin production. [This research was suppored by the Driving Force Project for the Next Generation of Gyeonggi Provincial Government in Republic of Korea]