

Effects of medium and culture conditions on folate production by *Streptococcus thermophilus* BAA-250.

ABSTRACT

The present study was conducted to investigate the effects of culture conditions on folate production by *Streptococcus thermophilus* BAA-250. Lactose (3g/L) and yeast extract (20g/L) were found to be the more suitable carbon and nitrogen sources for folate production by *S. thermophilus* BAA-250. para-aminobenzoic acid (pABA) higher than 1 μ M had no significant effect on folate biosynthesis. The optimum pH for folate production was shown to be 7.0 with a folate yield and productivity of 54.53 (μ g/L) and 2.27 (μ g/L.h), respectively. Optimum folate production obtained in the presence of lactose and yeast extract in a controlled pH of 7 during batch fermentation in bioreactor. Kinetic studies indicated that folate production by *S. thermophilus* is growth-associated process.

Keyword: Folate; Lactic acid bacteria; Kinetic model; *Streptococcus thermophilus*.