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United States Patent [19]

Carrera et al.

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[54] METHOD OF PRODUCING SURFACTIN WITH THE USE OF MUTANT OF *BACILLUS SUBTILIS*

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Nov. 23, 1990 [IT]	Italy	22176 A/90

[51] Int. Cl.⁵ C12P 21/02; C12P 1/125

[52] U.S. Cl. 435/71.2; 435/71.1; 435/252.31; 435/252.5

[58] Field of Search 435/71.2, 71.1, 252.5, 435/252.31

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[57] ABSTRACT

The present invention relates to a stable mutant of *Bacillus subtilis* which can produce surfactin with high yields, a method of producing surfactin with the use of the strain and the use of the surfactin obtained for pharmaceutical, energy and environmental problems.

11 Claims, 11 Drawing Sheets

FIG. 1

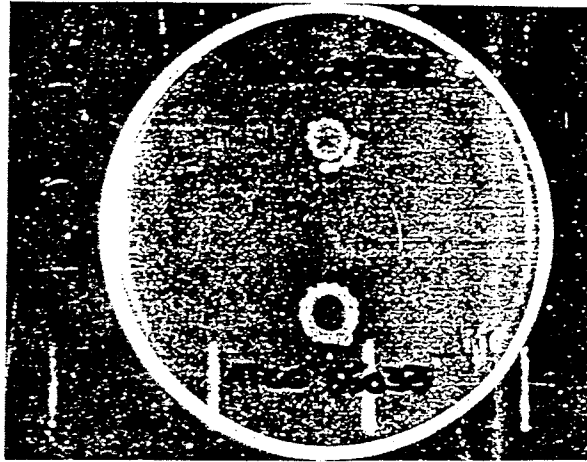


FIG. 2

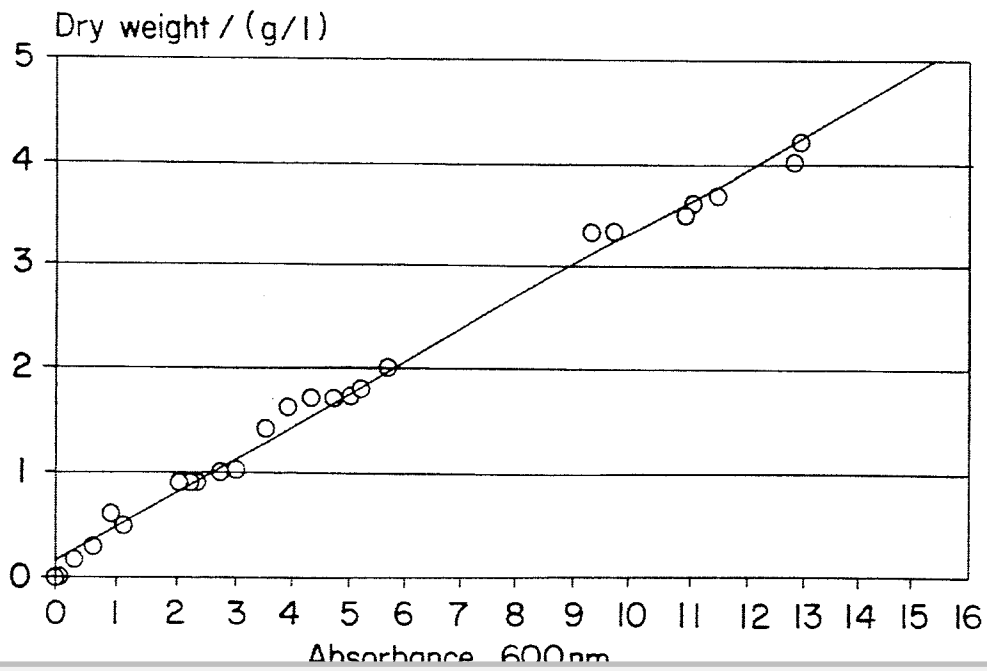


FIG. 3

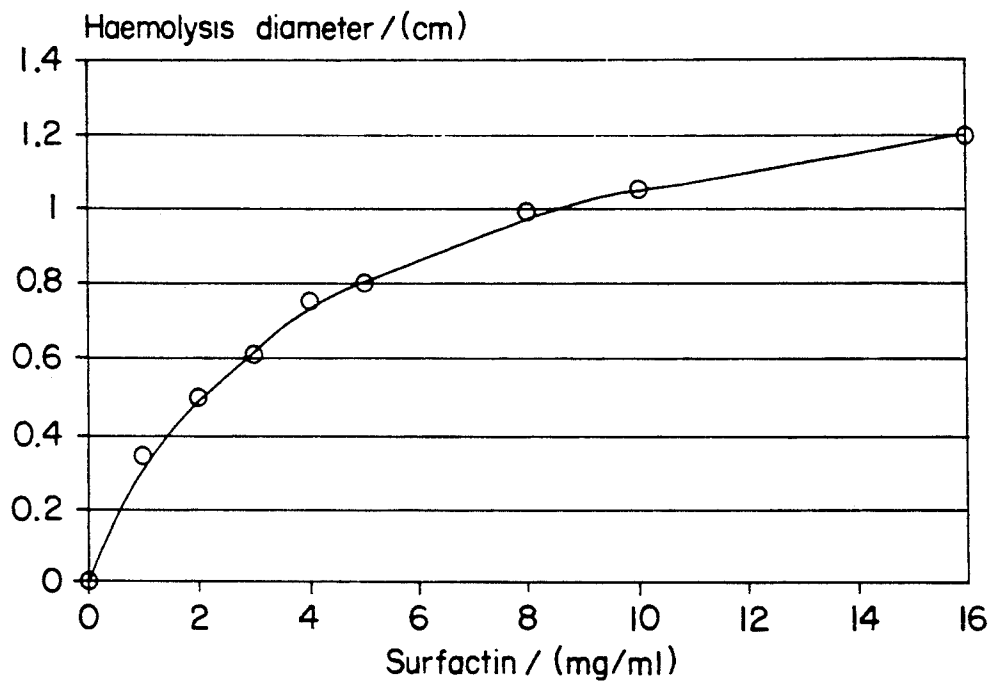


FIG. 4

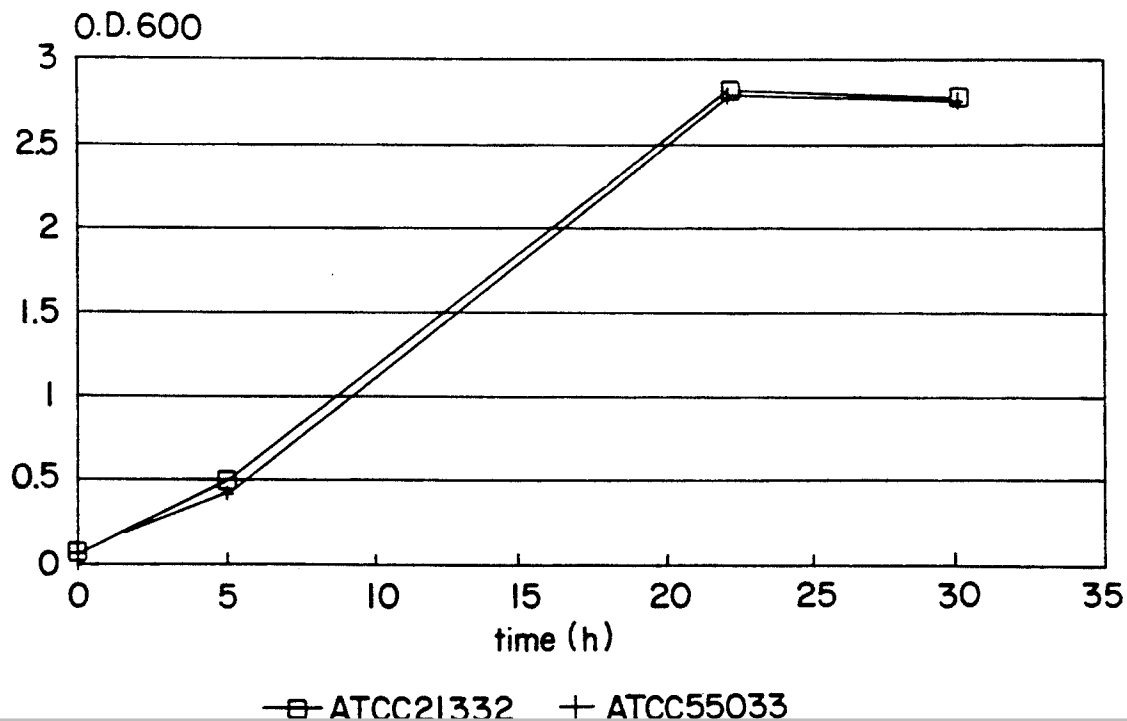


FIG. 5

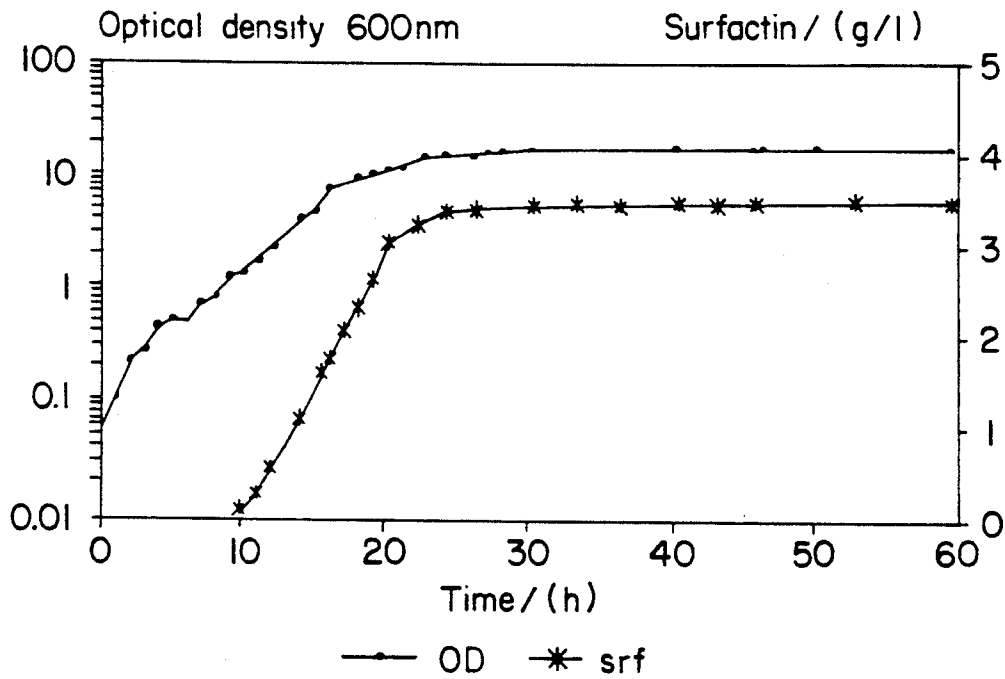


FIG. 6

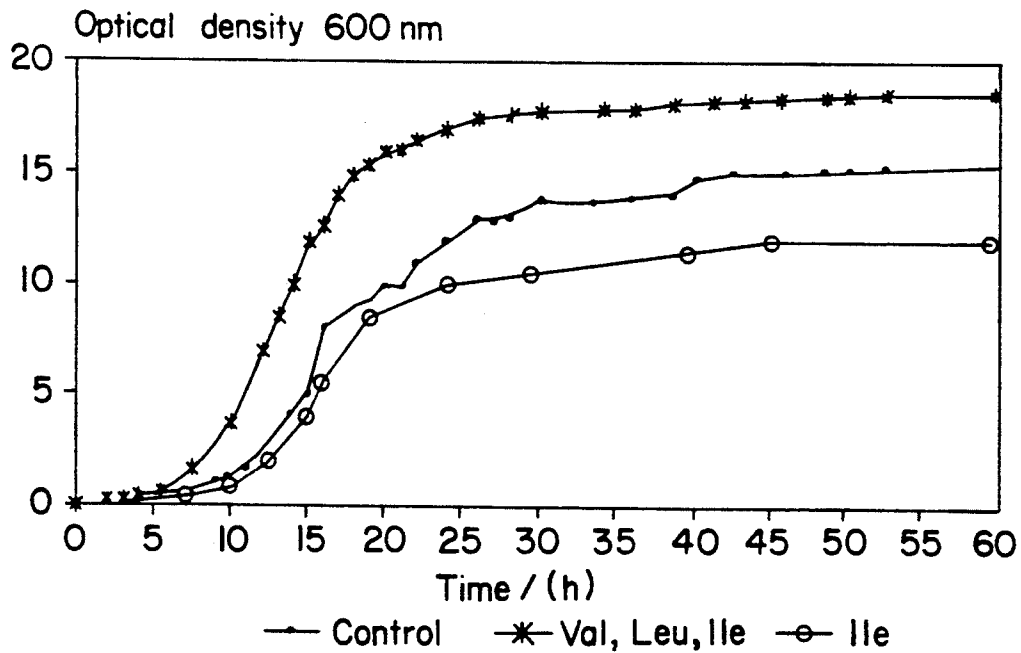


FIG. 7

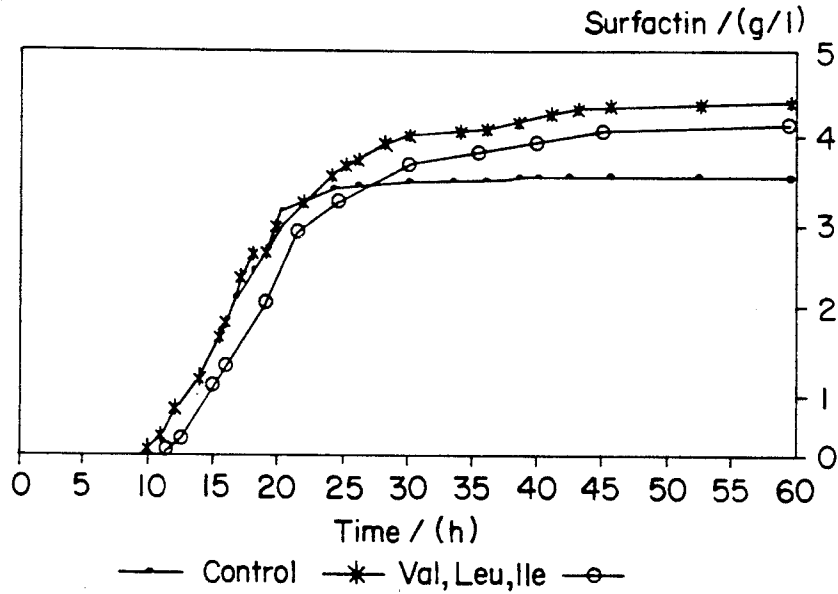
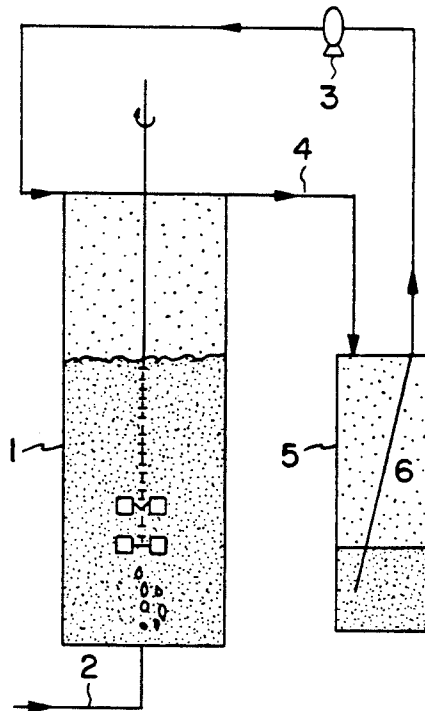


FIG. 8



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