TABLE 6

Effects of Amino Acids and of Iron, Manganese, and Zinc Concentrations on Lag Duration and Time of Accumulation of SK in Cultures of *B. megaterium*

	Supplements added to minimal medium:				Hours (approx.) for:	
	Metal ions, μM			*Amino acids,	Lag duration	**Accumulation of
	Fe	Mn	Zn	200 μg/ml		SK, 15 units/ml
1)	*35.7	36.4	–	–	6	6–7
	*35.7	36.4	–	+	2	2.5
	0.36	36.4	–	–	18	16–18
	0.36	36.4	–	+	3	3
2)	35.7	3.6	–	–	4.4	3.5
	35.7	36.4	–	–	6.0	5.5
	35.7	182.0	–	–	11.5	10.0
	35.7	36.4	4.6	–	9.0	9.0
	35.7	36.4	15.3	–	12.6	13.0
				Lag duration, hours	SK, units/ml, at time of growth initiation	SK, units/ml, by late log phase
3)	35.7	36.4	–	7	25	*ca.* 2,000
	1.8	36.4	–	13	35	>100,000
	0.07	36.4	–	26	25	>100,000

Inocula for all tests were 10^4 CFU/ml. Lag duration was estimated from periodic dilution plate counts.

*Untreated sucrose-salts minimal medium; for all other tests the medium was treated with alumina.

*Simulated casein hydrolysate with L-amino acids, including tryptophan and cysteine; not treated to reduce iron contamination.

**The "critical concentration" of SK in untreated minimal medium for 10^4 CFU/ml is about 15 to 16 units/ml. The critical concentration for this inoculum in alumina-treated medium is not known. One unit of SK is equivalent to 0.2 ng.

1) Data from Arceneaux.[6]

2) Data from Powell.[172]

3) Data from A. V. Vorndam (unpublished).