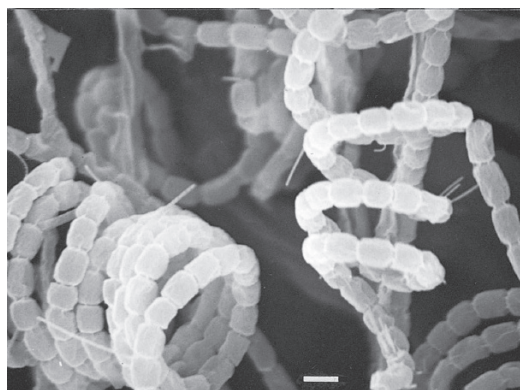


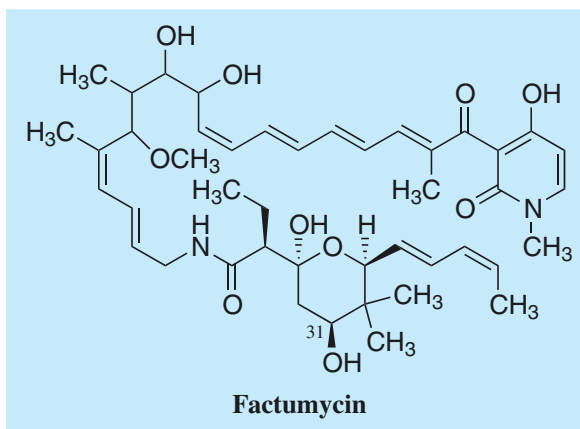
# Factumycin

## 1. Discovery, producing organism and structure<sup>1)</sup>

Factumycin (A40A) was isolated from the culture broth of the actinomycete strain OS-4369 and found to be an antimicrobial substance. The 31-Epimer of factumycin is antibiotic A73A<sup>2)</sup>.



*Streptomyces lavendulae* OS-4369



## 2. Physical data<sup>1)</sup>

Dark yellow oil. C<sub>44</sub>H<sub>62</sub>N<sub>2</sub>O<sub>10</sub>; mol wt 778.44. Sol. in MeOH.

## 3. Biological activity<sup>1,3)</sup>

Factumycin inhibits growth of both Gram-positive and Gram-negative bacteria<sup>1)</sup> by the interaction with Elongation factor-Tu<sup>4)</sup> and was used as a growth-promoting agent in animals<sup>3)</sup>.

Test organism, MB No. (ATCC)	Inhibition zone diameter (mmφ)	Test organism, MB No. (ATCC)	Inhibition zone diameter (mmφ)
<i>Bacillus</i> sp. 633	14	<i>Escherichia coli</i> 1418	20
<i>Proteus vulgaris</i> 1012	18	<i>Pseudomonas stutzeri</i> 1231(11607)	13
<i>Pseudomonas aeruginosa</i> 979	9	<i>Klebsiella pneumoniae</i> 1264	21
<i>Serratia marcescens</i> 252 (990)	16	<i>Enterobacter aerogenes</i> 835	16
<i>Staphylococcus aureus</i> 108 (6538p)	12	<i>Erwinia atroseptica</i> 1159 (4446)	16
<i>Bacillus subtilis</i> 964 (6633)	20	<i>Streptococcus faecium</i> 2820	26
<i>Micrococcus luteus</i> 1101 (9341)	26	<i>Bacillus subtilis</i> 9645	16
<i>Brucella bronchiseptica</i> 965 (4617)	20	<i>Escherichia coli</i> 605	18
<i>Salmonella gallinarum</i> 1287	18	<i>Pseudomonas aeruginosa</i> 2824	12
<i>Vibrio percolans</i> 1272 (8461)	22	<i>Escherichia coli</i> 60 (9637)	23
<i>Xanthomonas vesicatoria</i> 815	13	<i>Proteus mirabilis</i> 3126	19
<i>Proteus vulgaris</i> 838 (21100)	22		

\*Paper disc method. Sample concentration, 15 µg/disc.

## 4. Biosynthesis<sup>5)</sup>

The biosynthetic gene cluster for factumycin was identified by Thaker *et al.*

## 5. References

1. [256] V. P. Gullo, *et al.*, *J. Antibiot.* **35**, 1705-1707 (1982)
2. R. S. Dewey, *et al.*, *Jpn. Appl.* 81-2980, Jan. 13, 1981
3. R. S. Dewey, *et al.*, *U.S. Patent* 4, 264,607, Apr. 28, 1981
4. C. Sottani, *et al.*, *Rapid Communication in Mass Spectrometry* **7**, 680-683 (1993)
5. M. N. Thaker *et al.*, *Med. Chem. Commun.* **3**, 1020-1026 (2012)