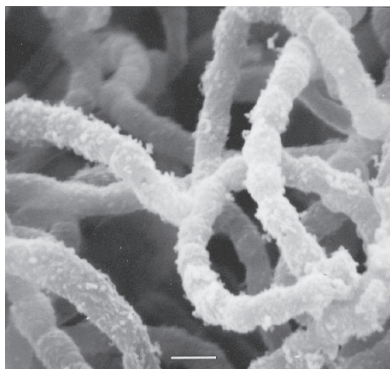


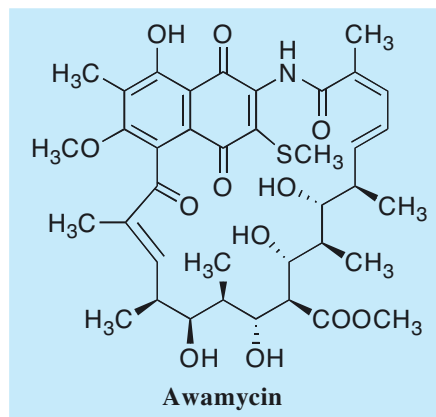
# Awamycin

## 1. Discovery, producing organism and structure<sup>1,2)</sup>

Awamycin was isolated from the culture broth of the actinomycete strain 80-217 and recognized as an antitumor substance. The absolute configuration of awamycin was determined by X-ray crystallographic analysis.<sup>3)</sup>



*Streptomyces* sp. 80-217



## 2. Physical data

Red crystals. C<sub>38</sub>H<sub>49</sub>NO<sub>12</sub>S; mol wt 743. Sol. in MeOH, acetone, EtOAc, benzene, CHCl<sub>3</sub>. Insol. in H<sub>2</sub>O, hexane.

## 3. Biological activity<sup>1,2)</sup>

### 1) Antitumor activity *in vivo*

Antitumor activity against Sarcoma 180 tumor

Dose (mg/kg/day)	MSD (range)	ILS (%)
12.5	51 (32~61)	264
6.3	40 (19~>61)	186
3.1	26 (19~50)	86
1.5	20 (20~60)	43
—	14 (12~16)	0

Sarcoma 180 cells (1 × 10<sup>5</sup>) were inoculated *i.p.* into ICR mouse.  
Mice were given *i.p.* with awamycin on days 1~9.  
MSD: median survival days  
ILS: increase in life span

Antitumor activity against IMC carcinoma

Dose (mg/kg/day)	MSD (range)	ILS (%)
25	53 (19~>60)	180
12.5	35 (26~47)	84
6.3	21 (16~26)	11
3.1	19 (19~26)	0
—	19 (13~26)	0

IMC carcinoma cells (1 × 10<sup>6</sup>) were inoculated *i.p.* into CDF<sub>1</sub> mouse.  
Mice were given *i.p.* with awamycin on days 1~9.

2) Awamycin was effective in completely preventing growth of HeLa cells at a concentration of 2.5 μg/ml.

### 3) Antimicrobial activity

Test organism	MIC (μg/ml)
<i>Staphylococcus aureus</i> FDA 209P	0.8
<i>Bacillus subtilis</i> PCI 219	0.1
<i>B. cereus</i> IFO 3001	0.8
<i>Micrococcus luteus</i> PCI 1001	0.05

## 4. References

1. I. Umezawa *et al.*, *J. Antibiot.* **36**, 1144-1149 (1983)
2. S. Funayama *et al.*, *J. Antibiot.* **38**, 1284-1286 (1985)
3. G. B. Robertson *et al.*, *Aust. J. Chem.* **45**, 309-325 (1992)