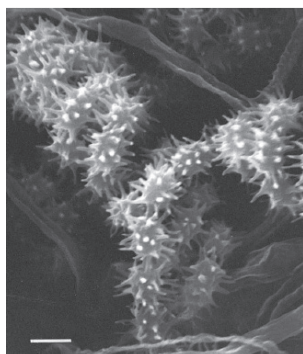


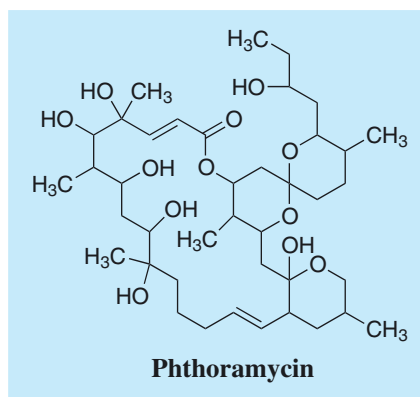
Phthoramycin

1. Discovery, producing organism and structure^{1,2)}

Phthoramycin was found while screening for cellulose biosynthesis inhibitors with herbicidal activity in the culture broth of the actinomycete strain WK-1875.



Streptomyces sp. WK-1875



2. Physical data¹⁾

White powder. $C_{40}H_{68}O_{12}$; mol wt 740.47. Sol. in MeOH, EtOAc, $CHCl_3$. Insol. in H_2O , hexane.

3. Biological activity^{1,3)}

1) Antifungal activity

Test organism	MIC ($\mu g/ml$)
<i>Candida albicans</i> KF-1	>100
<i>Saccharomyces cerevisiae</i> KF-26	>100
<i>Aspergillus niger</i> KF-103	>100
<i>Pyricularia oryzae</i> KF-180	6.25
<i>Mucor racemosus</i> IFO 4581	3.12
<i>Phytophthora parasitica</i> IFO 4783	1.56

Potato-glucose agar (pH 6), 27 °C, 3 days.

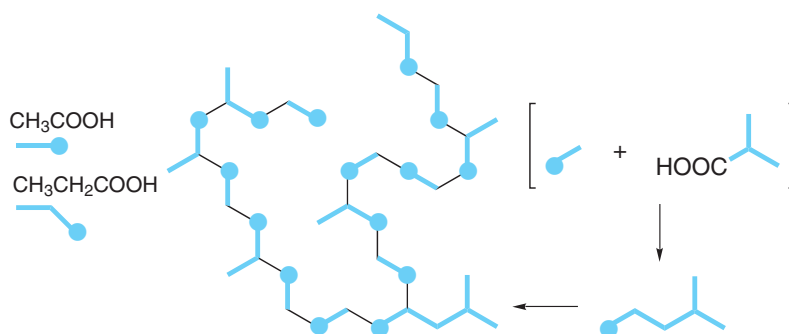
2) Mode of action and herbicidal activity

Phthoramycin has herbicidal activity and inhibits cellulose biosynthesis *in vitro* (63% inhibition at 1 mg/ml).

Conc. ($\mu g/tube$)	Growth inhibition (%) against	
	Radish	Rice plant
500	100	95
50	90	85

4. Biosynthesis²⁾

The carbon skeleton originated from eight acetates, six propionates and one isocaproate unit.



Proposed biosynthesis of phthoramycin

5. References

- [406] S. Ōmura *et al.*, *J. Antibiot.* **41**, 1910-1912 (1988)
- [423] A. Nakagawa *et al.*, *J. Antibiot.* **42**, 1324-1327 (1989)
- [582] Y. Tanaka *et al.*, *J. Antibiot.* **48**, 720-724 (1995)