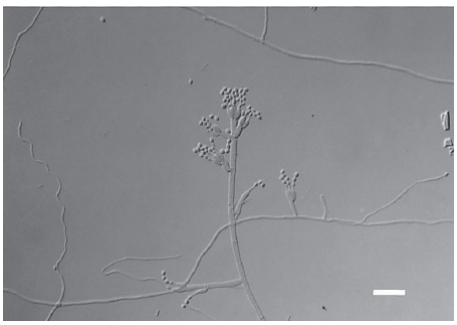
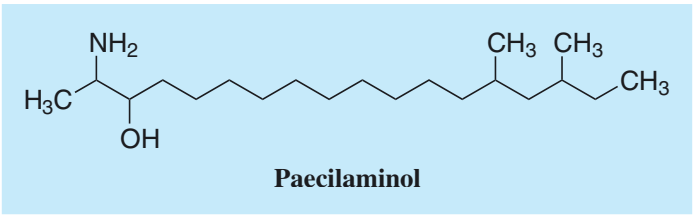
Paecilaminol

1. Discovery, producing organism and structure[1)]

Paecilaminol, an aminoalcohol group compound, was isolated from the culture broth of *Paecilomyces* sp. FKI-0550. It was recognized as a helminth NADH-fumarate reductase inhibitor.



Paecilomyces sp. FKI-0550
Bar: 20 μm



Paecilaminol

2. Physical data[1)]

White powder. $C_{20}H_{43}NO$; mol wt 313.57. Sol. in DMSO, MeOH, EtOAc, $CHCl_3$. Insol. in hexane.

3. Biological activity[1)]

1) Effects on electron transport enzymes

	Complex	IC_{50} (μM)
NADH-fumarate reductase (*Ascaris suum*)	I+II	5.1
NADH oxidase (bovine heart)	I+III+IV	19.8

2) Insecticidal and nematocidal activities

Paecilaminol affected the motility of brine shrimp *Artemia salina* at 5 μg/ml and free-living nematodes *Caenorhabditis elegans* at 20 μg/ml.

3) Cytotoxicity

The IC_{50} value of paecilaminol against P388 cells was 10.7 μg/ml. Paecilaminol (and its hydrochloride) inhibited the human cancer K562, MCF-7, HL-60 and BCG-823 cell lines with IC_{50} values ranging from 1.12 to 8.63 μmol/L[2)].

4) Antimicrobial activity

Test organism	MIC (μg/ml)	Test organism	MIC (μg/ml)
Bacillus subtilis ATCC6633	6.25	*Xanthomonas campestris* pv. *oryzae* KB88	>100
Staphylococcus aureus ATCC6538p	12.5		
Micrococcus luteus ATCC9341	6.25	*Candida albicans* KF1	>100
Mycobacterium smegmatis ATCC607	25	*Saccharomyces cerevisiae* KF26	>100
Escherichia coli NIHJ	>100	*Aspergillus niger* ATCC6275	>100
Pseudomonas aeruginosa IFO3080	>100	*Mucor racemosus* IFO4581	>100

4. Reference

1. [920] H. Ui *et al.*, *J. Antibiot.* **59**, 591-596 (2006)
2. X. Cui *et al.*, *Guoji Yaoxue Yanjiu Zazhi* **40**, 765-771 (2013)