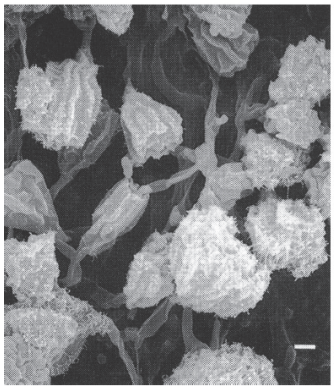
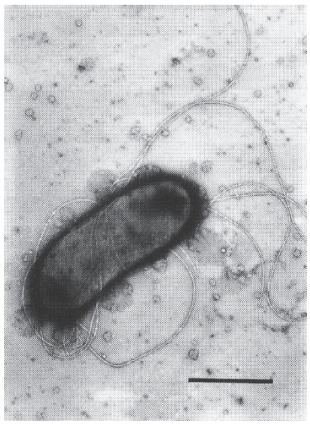
# 2-(2-Hydroxyethyl)-3-methyl-1, 4-naphthoquinone

## 1. Discovery, producing organism and structure[1,2)]

2-Hydroxyethyl-3-methyl-1,4-naphthoquinone was isolated from the culture broth of the actinomycete strain K95-5561$^T$. The strain was recognized as a new species of the genus *Actinoplanes* and named *Actinoplanes capillaceus* K95-5561$^T$ [See also "*Actinoplanes capillaceus*" (p. 402)]. This was the first report that 2-(2-hydroxyethyl)-3-methyl-1,4-naphthoquinone was produced by a microorganism. It showed some antimicrobial activities.

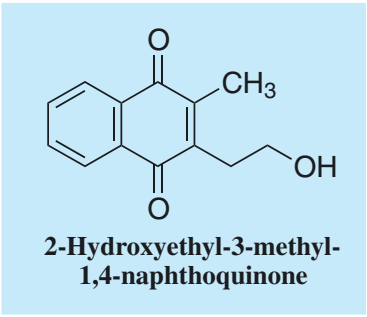


Sporangium



Motile spore

*Actinoplanes capillaceus* K95-5561$^T$




**2-Hydroxyethyl-3-methyl-1,4-naphthoquinone**

## 2. Physical data

Orange-yellow plates. $C_{13}H_{12}O_3$; mol wt 216.24. Sol. in DMSO, MeOH, $CHCl_3$.

## 3. Biological activity[1)]

| Antimicrobial activity | | | |
|---|---|---|---|
| Test organism | Diameter of inhibition zone (mm) | Test organism | Diameter of inhibition zone (mm) |
| *Bacillus subtilis* ATCC6633 | 11 | *Bacteroides fragilis* ATCC23745 | – |
| *Staphylococcus aureus* ATCC6538p | – | *Acholeplasma laidlawii* PG8 | – |
| *Micrococcus luteus* ATCC9341 | – | *Pyricularia oryzae* KF180 | – |
| *Mycobacterium smegmatis* ATCC607 | – | *Aspergillus niger* ATCC6275 | – |
| *Escherichia coli* NIHJ | 12 | *Mucor racemosus* IFO4581 | – |
| *Pseudomonas aeruginosa* IFO3080 | – | *Candida albicans* KF1 | – |
| *Xanthomonas campestris* pv. *oryzae* KB88 | – | *Saccharomyces cerevisiae* KF26 | 12 |

## 4. References

1. [762] A. Fukami *et al*., *J. Antibiot*. **53**, 1212-1214 (2000)
2. [767] A. Matsumoto *et al*., *Antonie van Leeuwenhoek* **78**, 107-115 (2000)