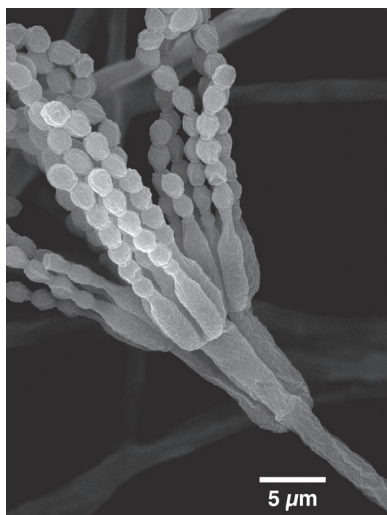


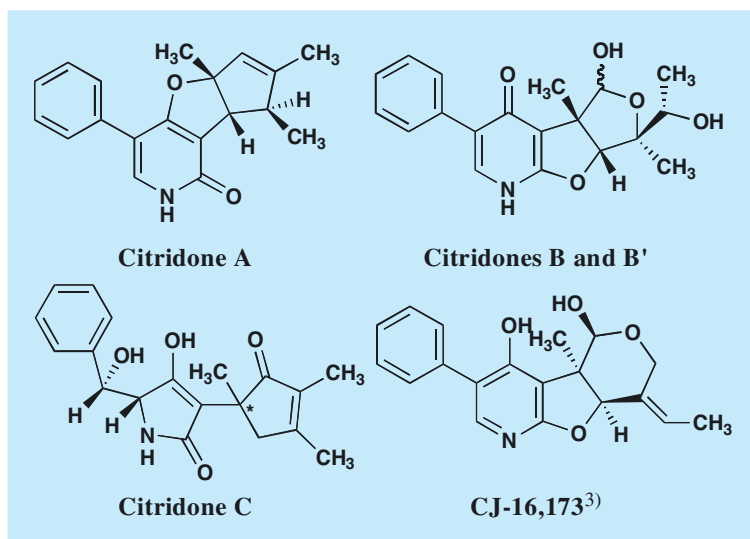
# Citridone

## 1. Discovery, producing organism and structures<sup>1,2,4)</sup>

Citridones and structurally related compound CJ-16,173<sup>3)</sup>, previously reported as antibiotics, were isolated from the culture broth of the fungal strain *Penicillium* sp. FKI-1938 as potentiators of antifungal miconazole activity. Citridones B and B' existed in equilibrium of hemiacetal isomerization. The total synthesis of citridone was reported by Ōmura *et al.*<sup>5)</sup> and Tomoda *et al.*<sup>6)</sup> (See Appendix I).



*Penicillium* sp. FKI-1938



## 2. Physical data (Citridone A)

White powder. C<sub>19</sub>H<sub>19</sub>NO<sub>2</sub>; mol wt 293.36. Sol. in DMSO, MeOH, CHCl<sub>3</sub>. Insol. in H<sub>2</sub>O, hexane.

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

Potentialiation of antifungal miconazole activity

Effect of citridones on miconazole activity against *Candida albicans* was investigated by the broth microdilution method. From comparison of the IC<sub>50</sub> values of miconazole activity, citridones potentiated miconazole activity by 2.4 ~ 4.1 fold.

Addition	IC <sub>50</sub> of miconazole (nM)	Ratio (control /+ drug)
None (control)	14.5	1
+ Citridone A	5.0	2.9
+ Citridones B +B'	6.0	2.4
+ Citridone C	3.5	4.1
+ CJ-16,173	6.3	2.3

#### 4. References

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3. S. Sakemi *et al.*, *J. Antibiot.* **55**, 6-18 (2002)
4. [924] T. Fukuda *et al.*, *Chem. Pharm. Bull.* **54**, 1659-1661 (2006)
5. [1100] T. Miyagawa *et al.*, *Org. Lett.* **13**, 1158-1161 (2011)
6. T. Fukuda *et al.*, *J. Antibiot.* **67**, 445-450 (2014)