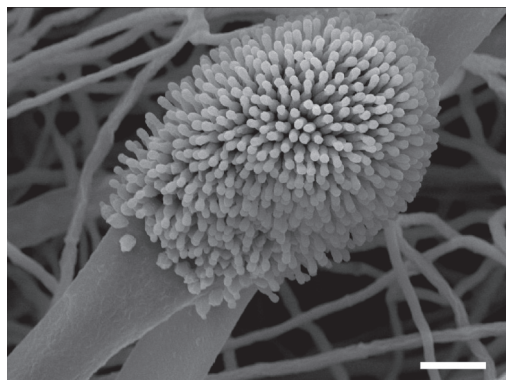


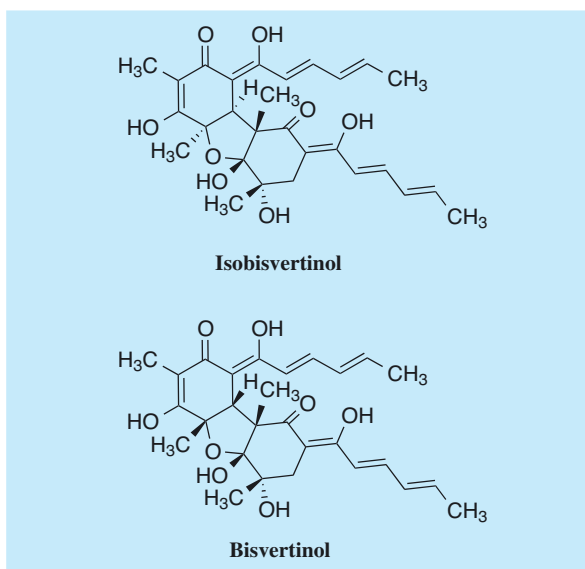
Isobisvertinol

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

Isobisvertinol was isolated from the culture broth of *Aspergillus clavatoranicus* strain FKI-1746 as an inhibitor of lipid droplet accumulation in mouse macrophages. Isobisvertinol has the same planar structure as bisvertinol, which was also isolated from this culture broth. The relative stereochemistry of isobisvertinol was elucidated by the NOE analysis, revealing that isobisvertinol was a stereoisomer of bisvertinol on C5a and C9a. The absolute stereochemistry of isobisvertinol was elucidated by the orientation of the two chromophores based on the CD spectrum analysis.



Aspergillus sp. FKI-1746
(*Aspergillus clavatoranicus* FKI-1746)
Bar: 10 μm

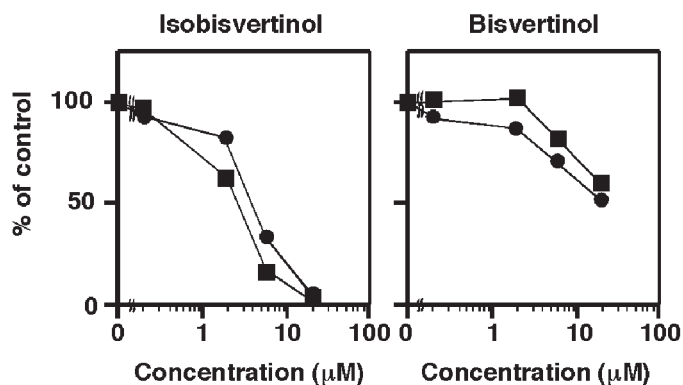


2. Physical data (Isobisvertinol)

Yellow amorphous. $\text{C}_{28}\text{H}_{34}\text{O}_8$; mol wt 498.56. Sol. in DMSO, MeOH, CHCl_3 , EtOAc. Insol. in H_2O .

3. Biological activity¹⁾

Inhibitory activity against cholesteryl ester (CE) and triacylglycerol (TG) syntheses of the cytosolic lipid droplet in mouse macrophage was tested. Isobisvertinol inhibited CE and TG syntheses in a dose-dependent manner with IC_{50} values of 2.5 μM and 4.0 μM , respectively. On the other hand, bisvertinol showed almost no effect even at 10 μM . Isobisvertinol showed much higher activity than bisvertinol, suggesting that the stereochemical difference is important for eliciting this activity.



4. References

- [954] N. Koyama *et al.*, *Org. Lett.* **9**, 425-428 (2007)
- L. S. Trifonov *et al.*, *Tetrahedron* **42**, 3157-3179 (1986)