Details of Technology

Name of Technology	Biologically active substances in components extracted from the bark of cryptomeria japonica	Life Science
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Key words	bark, extracted components, terpene, ferruginol, antioxidation	

What kind of technology is this?

Outline

The bark of coniferous trees contains a large amount of extractable components, and development of applications for such components is desired. The present research clarified the physiological activity of ferruginol, a component extracted from the bark of cryptomeria japonica with a paraffin solvent.

In an antibacterial activity test, ferruginol exhibited an inhibitory activity upon gram-positive bacteria and the potency was superior to that of chloramphenicol, an antibiotic on the market. In this antibacterial action, bacterial growth is inhibited, but bacteria are not killed. Thus it became clear that the antibacterial action of ferruginol was so-called "bacteriostatic action." In an antioxidation activity test, ferruginol exhibited an inhibitory effect on the oxidation of fatty acids comparable to that of BHT, an antioxidant on the market (see graph below).

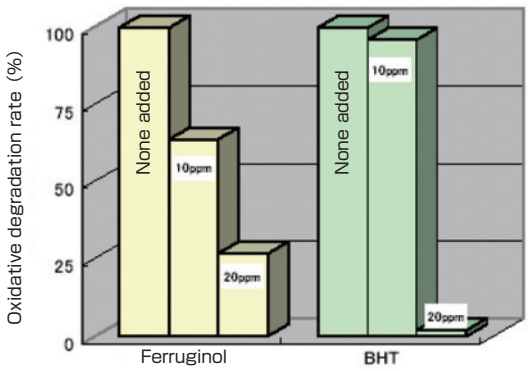

Fig. Antioxidation activity of ferruginol

What are its applications?

Ferruginol has a high antioxidation activity comparable to BHT, a synthetic antioxidant. Therefore, ferruginol can be expected to be used in various applications as a bacteriostatic antioxidant by adding it to food, cosmetics, or pharmaceuticals.

Related patents	
Related materials	Kofujita, H. et al., "Antibacterial activity at the bark of cryptomeria japonica and its related components," *Mokuzai Gakkaishi*, 47: 479-486 (2001).

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