

## The Antibiotic Activity of the Edible and Medicinal Mushroom *Lentinus edodes* (Berk.) Sing.

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The antibiotic activity of a liquid culture broth of the filamentous mushroom *Lentinus edodes* (Berk.) Sing. was investigated. It was found that this mushroom exhibited antibiotic activity against *Staphylococcus aureus* but not against *Escherichia coli*. Ether extracts of the *L. edodes* mycelium contained an active compound with a molecular weight of less than 10,000. This compound remained active after heat treatment, and after treatment at pH levels of 1 and 11. It was also found that the compound formed a precipitate with calcium chloride. Anion exchange

chromatography using AG1-X medium (followed by elution and lyophilization) resulted in a well separated peak, using ion-paired chromatography, with a retention time of 4.1 minutes, the same as that of oxalic acid. Gas chromatography–mass spectroscopy analysis of the diazomethane derivative displayed a spectrum similar to that of a diazomethane derivative of oxalic acid.

On this basis, oxalic acid was then tested for its activity against numerous organisms, and the results of these trials will be reported.