

# Novel Antibacterial Compounds Obtained from Some Edible Mushrooms

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Mushrooms are considered to be natural nutraceuticals and are cultivated for both edible and medicinal purposes. Many edible mushrooms possess enriched proteins and some medicinal properties such as antibacterial, antifungal, antiviral, and anti-AIDs.

Based on both nutritional and medicinal properties, the present study is focused on the antibacterial substances and their efficacy. Antibacterial substances were isolated from culture filtrates, fresh mycelia, and dried fruiting bodies (basidiomata) of an Indian milky mushroom, *Calocybe indica* Purkayastha et A. Chandry (Tricholomataceae), and an oyster mushroom, *Pleurotus ostreatus* (Jacq.:Fr.) P.Kumm. (Pleurotaceae). Antimicrobial compounds were extracted with different organic solvents such as acetone, chloroform, ethanol, ethyl acetate, and

methanol. The antibacterial activity against some human pathogenic bacteria, such as *Bacillus* spp., *Escherichia coli*, *Vibrio cholerae*, and *Salmonella thiphi*, was studied using agar diffusion method.

The maximum inhibition was observed in the dried fruiting bodies of *Calocybe indica*, extracted with the solvent ethyl acetate, followed by *Pleurotus ostreatus*. In both cases, two different colored compounds of blue and green were visualized under UV and recorded Rf values of 0.86 and 0.95, respectively, when the compounds were separated by thin layer chromatography.

These compounds could be responsible for pathogen inhibition, and the significance of the principally active compounds is worth future analyses by mass spectrum and nuclear magnetic resonance (NMR).