Antioxidant properties of several medicinal mushrooms.

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Three species of medicinal mushrooms are commercially available in Taiwan, namely, Ganoderma lucidum (Ling-chih), Ganoderma tsugae (Sung-shan-ling-chih), and Coriolus versicolor (Yun-chih). Methanolic extracts were prepared from these medicinal mushrooms and their antioxidant properties studied. At 0.6 mg/mL, G. lucidum, G. lucidum antler, and G. tsugae showed an excellent antioxidant activity (2.30-6.41% of lipid peroxidation), whereas C. versicolor showed only 58.56%. At 4 mg/mL, reducing powers were in the order G. tsugae (2.38) approximately G. lucidum antler (2.28) > G. lucidum (1.62) > C. versicolor (0.79). At 0.64 mg/mL, scavenging effects on the 1,1-diphenyl-2-picrylhydrazyl radical were 67.6-74.4% for Ganoderma and 24.6% for C. versicolor. The scavenging effect of methanolic extracts from G. lucidum and G. lucidum antler on hydroxyl radical was the highest (51.2 and 52.6%) at 16 mg/mL, respectively. At 2.4 mg/mL, chelating effects on ferrous ion were in the order G. lucidum antler (67.7%) > G. lucidum (55.5%) > G. tsugae (44.8%) > C. versicolor (13.2%). Total phenols were the major naturally occurring antioxidant components found in methanolic extracts from medicinal mushrooms. Overall, G. lucidum and G. tsugae were higher in antioxidant activity, reducing power, scavenging and chelating abilities, and total phenol content.