

Antioxidant and Antifungal Properties of Benzimidazole Derivatives

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Antioxidant and radical scavenging properties of a series of 2-[4-(substituted piperazin-/piperidin-1-ylcarbonyl)phenyl]-1*H*-benzimidazole derivatives were examined. Free radical scavenging properties of compounds **11**–**30** and **33** were evaluated for the stable free radical 2,2-diphenyl-1-picrylhydrazyl (DPPH) and superoxide anion radical. In addition the inhibitory effects on the NADPH-dependent lipid peroxidation levels were determined by measuring the formation of 2-thiobarbituric acid reactive substances (TBARS) using rat liver microsomes. Compound **33** which has a *p*-fluorobenzyl substituent at position 1 exhibited the strongest inhibition (83%) of lipid peroxidation at a concentration of 10^{-3} M, while the nonsubstituted analogue **13** caused 57% inhibition. This result is fairly consistent with the antimicrobial activity results against both *Staphylococcus aureus* and *Candida albicans*.

Key words: Benzimidazole, Lipid Peroxidation, Superoxide Anion