

## Free Radical Scavenging Activity of Some 4-aryl Substituted Curcumin Derivatives

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### ABSTRACT

Curcumin and a number of 4-aryl (phenyl, methylphenyl, methoxyphenyl) substituted curcumin derivatives were studied for their free radical scavenging activity using  $\alpha$ -tocopherol as standard antioxidants. Free radical scavenging activity was evaluated using diphenyl picryl hydrazyl (DPPH) radicals. The results showed that 4-(*p*-methoxyphenyl)curcumin exhibited free radical scavenging activity higher than that of curcumin ( $IC_{50} = 88.47 \mu M$ ) while the 4-(*p*-methylphenyl)curcumin showed an effect which is equivalent to curcumin ( $IC_{50} = 105.72 \mu M$  and  $105.52 \mu M$  respectively), but the 4-phenylcurcumin showed lower activity than curcumin ( $IC_{50} = 119.26 \mu M$ ). Curcumin and its derivatives showed lower activity than  $\alpha$ -tocopherol ( $IC_{50} = 12.51 \mu M$ )

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