

The inhibitory effect of α -tocopherylferulate on UVB-induced melanogenesis accompanied with protective effect of DNA damages

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α -Tocopheryl ferulate (α -TF) is a compound of α -tocopherol (α -T) and ferulic acid connected by an ester bond; ferulic acid is also an antioxidant, and could scavenge free radicals induced by ultraviolet (UV) radiation, and thus maintain the long-lasting antioxidative effect of α -T. α -TF inhibited melanogenesis in human melanoma cells by inhibiting tyrosinase activity. The strong inhibitory effect of α -TF on UVB-induced melanogenesis and erythema formation was observed in guinea pigs. α -TF inhibited the formation of not CPD or 6-4 photoproducts but 8OHdG. Taken together, α -TF could be a good candidate for the whitening agent which suppresses UV-induced melanogenesis with sparing DNA damages induced by oxidative stress.