Radioprotection (UV- and gamma-rays) of DNA molecule by indole and indole-derivatives

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The radioprotective ability of L-tryptophan, tryptamine, 3-indoleacetic and indole (10?4 m), on UV and gamma irradiated DNA (10?4 m) is studied. UV radioprotection is accomplished in the following order of efficiency: L-Tryptophan and 3-indoleacetic acid > indole and tryptamine. The corresponding DRF measured as absorbancy loss at 260 nm, were: L-Tryptophan and 3-indoleacetic acid around 3 and tryptamine and indole around 1. When absorbancy loss plus changes in the patterns of the absorbancy curve were considered the DRF was: L-Tryptophan 2.53, 3-indoleacetic acid 1.54, indole 1.22 and tryptamine 0.75, respectively. For gamma radiation damage the order of radioprotection found was: Indole, L-tryptophan and tryptamine > 3-indoleacetic acid. The DRF when compairing the absorbancy loss at 260 nm, were: L-Tryptophan, Indole and tryptamine around 11 and 3-indoleacetic Acid around 4. When evaluating total changes in absorbancy the DRF were: Indole and L-tryptophan around 6.5, tryptamine 3.7