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### GREEN TEA EXTRACT INHIBITS OXIDATIVE DNA DAMAGE INDUCED BY H<sub>2</sub>O<sub>2</sub> IN CHINESE HAMSTER LUNG (CHL) CELLS

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Regular green tea consumption has been associated with a reduced risk of cancer, partly via antioxidant effects of green tea in protecting cellular components against free radical. In the present study, we evaluated the effect of green tea extract (GTE) on oxidative damage to DNA in CHL cells. Cells incubated in medium with DMSO (negative control) or with various concentration of GTE (10, 20, 40, 80 g/ml) were treated with H<sub>2</sub>O<sub>2</sub> as an oxidative stimulus. Oxidative damage was evaluated by Comet assay (single-cell gel electrophoresis) and quantified as tail length (TL) and tail moment (TM). Cells treated with 100 M H<sub>2</sub>O<sub>2</sub> had extensive DNA damage, compared with cells treated with DMSO ( $P < 0.001$ ). Such increased oxidative DNA damage by H<sub>2</sub>O<sub>2</sub> was significantly inhibited by pre-incubating with 10, 20, 40 and 80 g/ml of GTE by 37.5, 44.6, 52.0 and 33.5%, respectively. TM detected the reduction of DNA damage more sensitively than TL by 70.6, 76.9, 81.3 and 57.8% after the treatment with GTE. These results indicate that GTE supplementation to CHL cells followed by H<sub>2</sub>O<sub>2</sub> treatment inhibited damage to cellular DNA, supporting a protective or antioxidative effect of green tea against oxidative damage induced by reactive oxygen species.