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[\[PDF \(168K\)\]](#) [\[References\]](#)**Effects of tea constituents on cell cycle progression of human leukemia U937 cells**Masahiko OHATA¹⁾, Yu KOYAMA¹⁾, Takuji SUZUKI¹⁾, Sumio HAYAKAWA¹⁾, Koichi SAEKI¹⁾, Yoshiyuki NAKAMURA²⁾ and Mamoru ISEMURA¹⁾

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ABSTRACT

Tea and tea constituents are known to induce apoptosis in a variety of cancerous cells, suggesting their beneficial effects as chemopreventive agents. Previous studies have shown that low molecular weight constituent catechins and high molecular weight fractions of tea have the apoptosis-inducing activity, but that their action mechanisms may be different. Since cell cycle arrest is known to be one of the underlying mechanisms of apoptosis, we examined the effects of these tea constituents on cell cycle progression of human leukemia U937 cells. The results showed that the high molecular weight fractions of green tea and black tea caused G2/M arrest associated with upregulation of p21/Waf1, but that epigallocatechin gallate, a major component of green tea catechins, gave little effects of cell cycle progression and p21/Waf1 expression. Thus, the present results suggest the difference in the apoptosis-induction mechanism between the two types of tea constituents.

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