

## Compound K, Ginseng Saponin Metabolite, Induces Apoptosis in Human Monocytic Leukemia cells

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We report upon the cytotoxic activity of the ginseng saponin metabolite, Compound K (20-O-D-glucopyranosyl-20(S)-protopanaxadiol, IH901) on various human leukemia cell lines. Compound K had most effect on U937, a human monocytic leukemia cell line, which on treatment showed; a exposure of phosphatidylserine from the inner cell membrane to the outer cell membrane, the formation of apoptotic bodies and DNA fragmentation, - characteristics of apoptosis. Compound K induced apoptosis by up-regulating Bax, disrupting the mitochondria membrane potential, and by activating caspase 9 and caspase 3. Therefore, we suggest that Compound K inhibit U937 cell growth by inducing apoptosis through the up-regulation of Bax and caspase activation.