



Apoptosis-inducing Effects of *Radix Aconiti* Extract in HL-60 Cells

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The aim of this study was to investigate the apoptotic effect and its mechanism on *Radix Aconiti* (RA) extract in HL-60 human leukemia cell line.

RA extract induced apoptosis as confirmed by discontinuous fragmentation of DNA. To clarify the mechanisms on RA extract-induced apoptosis, we examined the caspase-3, -8 enzyme activity and protein levels including Fas, FasL in HL-60 cells. Treatment with RA extracts resulted in the increase of caspase-3 enzyme activity in a time and dose-dependent manners, which was accompanied by the cleavage of poly-(ADP-ribose) polymerase (PARP). This activation of caspase-3 enzyme resulted from cleavage of procaspase-8, which was followed by increases of FasL, Fas protein expression in RA extracts-treated HL-60 cells.

In conclusion, RA extract induced apoptosis of HL-60 human leukemia cell line. This results suggest that the apoptotic mechanisms of RA extract on HL-60 cells involved in FasL, Fas activation, procaspase-8 cleavage, activation of caspase-3 and cleavage of PARP.

Collectively, these results suggest that RA may be a valuable agent as a anti-cancer drug.

Key words : *Radix Aconiti*, aconitine, HL-60 human leukemia cell line, apoptosis, FasL, Fas, caspase-8, caspase-3, poly-(ADP-ribose) polymerase

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