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[\[PDF \(515K\)\]](#) [\[References\]](#)**Effects of Japanese mistletoe lectin on cytokine gene expression in human colonic carcinoma cells and in the mouse intestine**[Pervin Monira](#)<sup>1)</sup>, [Yu Koyama](#)<sup>2)</sup>, [Ryuuta Fukutomi](#)<sup>3)</sup>, [Kensuke Yasui](#)<sup>4)</sup>, [Mamoru Isemura](#)<sup>1)</sup>  
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**ABSTRACT**

Mistletoe lectins have various biological activities including anti-cancer and immunomodulatory effects. We previously isolated a lectin (ML-J) from Japanese mistletoe. In the present study, we examined the effects of ML-J on cytokine gene expression in human colon adenocarcinoma Caco-2 cells and in the mouse intestine. The results of reverse transcription-polymerase chain reaction and quantitative real-time polymerase chain reaction indicated that ML-J caused an upregulation of the gene expression of the proinflammatory cytokines interleukin (IL)-8, tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) and IL-6 in Caco-2 cells and TNF- $\alpha$  and IL-6 in the duodenum. This study provides the first example to show that a perorally administered plant lectin affects gene expression in the duodenum.

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