The Anti-inflammatory Effect of *Harmonia axyridis* on Lipopolysaccharide–induced Inflammatory Response in RAW 264.7 Cells

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**Abstract**

*Harmonia axyridis* is known to display diverse biological activities such as growth promotion. However, few studies have been directed on the effect of *Harmonia axyridis* on skin inflammatory function. In this study, we aimed to investigate the anti-inflammatory effect of Harmoniasin gene fragment (HaGF) peptide from *Harmonia axyridis* on macrophage cell. During the entire experimental period, 5, 25, 50, 100 μg/ml of HaGF had no cytotoxicity. In these concentrations, HaGF was showed that iNOS and COX-2 inhibition activity 51% and 49%. In addition, HaGF reduced the release of inflammatory cytokines including TNF-α, IL-1β, IL-6. The results above indicate that HaGF significantly reduces the effect of oxidative and inflammatory cytokines.

**Materials & Methods**

2. NO assay
3. Cytokine assay (ELISA) kit
4. Western blot analysis

**Results**

![Harmonia axyridis](image)

![Fig. 1. Cell viability of HaGF on RAW 264.7 cells.](image)

![Fig. 2. Inhibitory effects of HaGF on the production of nitric oxide Raw 264.7 cells.](image)

![Fig. 3. Effect of HaGF on the production of cytokines stimulated by LPS.](image)

![Fig. 4. Inhibitory effects of HaGF on the protein levels of iNOS and COX-2 in RAW 264.7 cells.](image)

**Conclusion**

Our results suggest that Harmoniasin gene fragment may be a significant factor and can be used a therapeutic modality in managing chronic inflammatory diseases.