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## Ginsenoside Rg3-enriched red ginseng extract potently suppress inflammation in RAW 264.7 cells

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The potential benefits of ginseng range from energizing the body to providing the longevity. Ginsenoside Rg3 (Rg3), one of the most effective ginseng saponins, has anti-inflammatory and anti-cancer effects. Numerous previous studies have unraveled the Rg3 pharmacological effects. One recent study has also revealed its protective cardiovascular effects in hyper sensitive rats. Here, we investigated the anti-inflammatory activity of Rg3 *in vitro* on murine macrophages RAW 264.7 cells. We found that Rg3 in dose dependent manner attenuate the expression of proinflammatory cytokines after LPS induction. The MTT assay for dose dependent concentrations of Rg3 show no cytotoxicity and nitric oxide concentration show a decreasing trend with increase in dose. The mRNA expression of proinflammatory cytokines like IL-1β, IL-6, iNOS, COX-2 and TNF-α show the same trend as that of nitric oxide production. The protein expression shown by Rg3-RGE clearly indicates that it signals transduces via MAPK and NF-κB pathways. More investigation into signal mediation revealed that Rg3-RGE mediates its anti-inflammatory action via RXRα receptors. Moreover, our *in vivo* data shows that Rg3-RGE very strongly protected the mice against LPS induced septic shock.

### Biography

Man Hee Rhee has completed his graduation in Veterinary Medicine in 1989, completed his PhD degree in 2000 in Neurobiology Department, Weizmann Institute of Science, Israel. He is the Chairman of Department of Veterinary Medicine, Kyungpook National University. He has published more than 250 papers in reputed journals and has been serving as an Editorial Board Member of internationally renowned journal.

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