



Deguelin Down-Regulates VEGF Receptors Expression and Inhibits Tumor Growth in Mice

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SUMMARY. The anti-tumor effects and molecular mechanism of deguelin on the human lung cancer A549 cells xenografts in nude mice was investigated. In lung cancer xenograft mice, the effect of deguelin (2, 4, and 6 mg/kg b.w.) on inoculated tumor growth was evaluated, and measured the microvessel density by the evaluation of immunohistological staining for CD34. Real-time reverse transcription polymerase chain reaction technology and western blot analysis were applied to assess the expression level of VEGF and VEGF receptors. The volume of the tumor treated with deguelin was significantly lower than that of the control, and deguelin significantly inhibited microvessel density of the tumor in a dose-dependent manner. Deguelin significantly down-regulated the expression levels of VEGF receptors (VEGFR-1 and VEGFR-2) and their mRNA levels, while deguelin (2 and 4 mg/kg b.w.) had no significant effect on the expression level of VEGF and its mRNA level. Deguelin inhibited the growth of human lung cancer xenografts model by suppressing VEGF receptors expression and may be a therapeutic strategy to lung cancer progression.

KEY WORDS: Angiogenesis, Deguelin, Lung cancer, VEGF, VEGF receptor.

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