

عنوان مقاله:

The effect of antiangiogenic peptides on expression of eNOS gene in breast cancer mouse model

محل انتشار:

سومین کنگره بین المللی و پانزدهمین کنگره ملی ژنتیک ایران (سال: 1397)

تعداد صفحات اصل مقاله: 1

نویسندگان:

j Nabhanizadeh - Department of biology, University Campus², University of Guilan, Rasht, Iran

z salehi - Department of biology, Faculty of Science, University of Guilan, Rasht, Iran

m asghari - Department of biology, Faculty of Science, University of Guilan, Rasht, Iran

s talesh sasani - Department of biology, Faculty of Science, University of Guilan, Rasht, Iran

خلاصه مقاله:

Angiogenesis plays a critical role in the growth and spread of cancer. A major pathway involved in angiogenesis is the release of vascular endothelial growth factor (VEGF) from hypoxic tumor cells and its binding to the VEGF receptor (VEGFR), located on endothelial cells. Numerous therapies have been developed that target angiogenesis by blocking the VEGF signaling pathway. Peptides have emerged as important therapeutics that are being rigorously tested in angiogenesis-dependent diseases due to their low toxicity and high specificity. It has been shown that antiangiogenic peptides signal via interaction with VEGFR, although multiple downstream effector pathways are implicated. The aim of this study was to investigate the effect of antiangiogenic peptides on eNOS expression level in 4T1 xenograft mouse. To investigate the effect of antiangiogenic peptides on tumour growth in xenograft mouse model, female Balb/c bearing subcutaneous 4T1 breast cancer cell were injected. The mice in the control group received phosphate-buffered saline. The eNOS expression level was investigated by real time PCR method. Treatment with antiangiogenic peptides significantly decreased the tumor size and inhibited tumor growth in a concentration-dependent manner. Moreover, the expression level of eNOS was significantly reduced in peptide-treated mice group comparing to the control. In conclusion, the antiangiogenic peptides inhibitory effect on the VEGFR mediated signaling pathway could be targeted for the development of pharmaceutical agents that inhibit tumor angiogenesis via eNOS.

کلمات کلیدی:

eNOS; VEGF; antiangiogenic peptide

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