

Original article

# The effect of undecanones and their derivatives on tumor angiogenesis and VEGF content

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## Abstract

The *in vivo* effects of some derivatives of aliphatic ketones (2-undecanone, 3-undecanone, 4-undecanone and their derivatives) on L-1 sarcoma tumor angiogenesis and VEGF content were studied in Balb/c mice. Mice that inhaled 10% solution of 3-undecanone(3-on) or 1% solution of 2-undecanone propylene acetal (Acpr2) for 3 days after tumor cells implantation, presented lower neovascular response measured by tumor-induced cutaneous angiogenesis test (TIA) and lower tumor VEGF content in 5-days tumors, than non-inhaled controls. Other substances presented various effects on tumor VEGF concentration and angiogenesis. Histological examination of lesions collected from mice inhaled Acpr2, or non-inhaled controls, revealed small diffused areas of necrosis in the former group. In both groups, slight to moderate inflammatory infiltrations were seen at the tumor's margin. In Acpr2 group, there were less small blood vessels at tumor's margin than in the control group.

**Key words:** undecan-x-ones, tumors, mice, angiogenesis, VEGF