

## **8-Prenylnaringenin, a novel phytoestrogen, inhibits angiogenesis in vitro and in vivo**

**PROJECT: 325**

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8-prenylnaringenin is a recently discovered phytoestrogen. Using an *in vitro* model of angiogenesis in which endothelial cells can be induced to invade a three-dimensional collagen gel within which they form capillary-like tubes, we demonstrate that 8-prenylnaringenin inhibits angiogenesis induced by basic fibroblast growth factor (bFGF), vascular endothelial growth factor (VEGF) or the synergistic effect of the two cytokines in combination, with an IC<sub>50</sub> of between 3-10µM. This effect was seen with bovine microvascular endothelial cells derived from the adrenal cortex (BME cells) and with endothelial cells from the bovine thoracic aorta (BAE cells). The inhibitory effects of 8-prenylnaringenin were found to be roughly equipotent to those of genistein that has previously been shown to inhibit angiogenesis *in vitro*. Early CAM assay results showed reductions in both vessel lengths and vein diameters, with similar potency in the 8-prenylnaringenin and genistein groups. Similar effects on the CAM vessels were seen when the two substances were co-added. These findings suggest that 8-prenylnaringenin has potential therapeutic applications for diseases in which angiogenesis is an important component.

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