

Astragalus membranaceus/Angelica gigas/Trichosanthes kirilowii Maximowicz Mixed Herbal Extract SH003

National Cancer Institute

Source

National Cancer Institute. *Astragalus membranaceus/Angelica gigas/Trichosanthes kirilowii Maximowicz Mixed Herbal Extract SH003*. NCI Thesaurus. Code C148489.

A traditional Chinese medicine (TCM)-based herbal extract composed of *Astragalus membranaceus* (Am), *Angelica gigas* (Ag) and *Trichosanthes kirilowii* Maximowicz (Tk), with potential anti-angiogenic and antineoplastic activities. Upon administration, the active ingredients in Am/Ag/Tk mixed herbal extract SH003 work synergistically to exert a number of activities through various mechanisms of action (MOA); although, not all of the MOAs are fully elucidated. SH003 blocks the binding of vascular endothelial growth factor (VEGF) to its receptor VEGF receptor 2 (VEGFR2; KDR), thereby inhibiting VEGF/VEGFR2-mediated signaling and VEGF-induced tumor endothelial cell migration, invasion and tube formation. This inhibits tumor angiogenesis. In addition, SH003 inhibits signal transducer and activator of transcription 3 (STAT3) activation and STAT3-mediated signaling, decreases the production of the pro-inflammatory cytokine interleukin-6 (IL-6), and the expression of STAT3 target genes. This induces apoptosis in, and reduces proliferation and metastasis of, cancer cells in which STAT3 signaling is overactivated. STAT3 activation contributes to inflammation in the cancer environment and tumor cell proliferation.