



Genetic Modification of Endostatin: An Anti-Angiogenic Therapeutic

Technology No. z00094

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Genetic Modification of Anti-Cancer Compound Derived from Endostatin

A method to improve anti-angiogenic proteins has been developed to create proteins with an increased potency so that higher efficacy may be achieved by lower doses. Through structural modifications, an anti-cancer compound derived from the native endostatin molecule can be modified. The composition of this modified endostatin molecule contains a targeting moiety specific for endothelial cells that is linked to an anti-angiogenic moiety. These modifications allow for an increased potency and higher efficacy over native endostatin while being provided in lower dosages than in current clinical use of angiostatin.

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Endostatin and Angiostatin in the Inhibition of Angiogenesis

Endostatin and angiostatin are protein fragments of collagen type XVIII and plasminogen, respectively, which inhibit endothelial cell proliferation and thereby inhibit angiogenesis. Angiogenesis is critical for tumor growth and metastasis. Limitations on the clinical use of angiostatin proteins include the need for a high dose and/or prolonged therapies.

Therapeutic Uses Include Cancer Therapy, Diabetic Retinopathy and Restenosis

Second generation anti-angiogenic molecules developed using this technology can be useful in cancer therapy, diabetic retinopathy, macular degeneration and restenosis resulting from balloon angioplasty. Additional applications include other diseases where inhibition of endothelial cell

proliferation is desired.

BENEFITS OF ANTI-ANGIOGENIC MOLECULES FROM MODIFIED ENDOSTATIN:

- Enhanced potency over native endostatin
- Strong composition of matter claims
- Compositions contain a targeting moiety

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