Recombinant Human Apolipoprotein(a) Kringle V MG1102

National Cancer Institute

Source

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An 86 amino-acid long polypeptide fragment of a recombinant form of human apolipoprotein (a) (apo(a)) kringle V, with potential anti-angiogenic and antineoplastic activities. Although the exact mechanism of action has yet to be fully elucidated, upon administration, recombinant human apo(a) kringle V MG1102 inhibits the fibronectin-mediated migration of endothelial cells, binds to and blocks the activity of alpha 3 beta 1 integrin (a3b1 integrin), inhibits the activation of focal adhesion kinase (FAK) and FAK-mediated signaling, and leads to the inhibition of the p130 Crk-associated substrate (p130CAS)-c-Jun NH2-terminal kinase (JNK) pathway. This inhibits tumor angiogenesis, induces mitochondrial-mediated apoptosis of tumor cells and tumor-associated endothelial cells, and suppresses tumor growth and metastasis. Apo(a), a glycoprotein component of human lipoprotein(a), contains repeated kringle domains; certain kringle domains of apo(a), including the plasminogen kringle V homolog (KV), have anti-angiogenic effects.