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Truncated Tissue Factor/NGR Peptide

National Cancer Institute

Source

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A vascular-targeting agent composed of the extracellular domain of the truncated form of tissue factor (tTF) conjugated to the C-terminal peptide GNGRAHA (NGR), with potential procoagulatory and antineoplastic activities. Upon administration, the NGR peptide moiety of tTF-NGR targets and binds to the surface protein aminopeptidase N (CD13) expressed on endothelial cells in tumor vessels. Upon deamidation of the NGR peptide moiety, this agent also binds to integrin α V β 3 (aVb3; CD51/CD61) in the tumor vasculature. In turn, the tTF causes occlusion of the tumor blood vessels, which causes an inhibition of blood supply and flow in the tumor, nutrition and induced tumor cell death and an inhibition of tumor cell proliferation. TF plays a key role in the coagulation cascade. NGR is a asparagine-glycine-arginine containing peptide and ligand of CD13. Both aVb3 and CD13 are surface proteins that are upregulated on endothelial cells of tumor vessels.