Plasminogen activator inhibitor 1 (PAI-1) is a peptide protease inhibitor that exhibits proliferation-enhancing activity in cancer models. PAI-1 is produced by thrombin activation of protease-activated receptor 1 (PAR1) and is clinically used as a biomarker for heart disease. PAI-1 increases cell proliferation and tumor size of HeLa xenografts in some models and may be over-expressed in cancerous tissue. In other animal models of cancer, PAI-1 exhibits anti-apoptotic activity through a mechanism that involved activation of plasmin and inhibition of Fas/FasL signaling. PAI-1 also displays pro-fibrotic characteristics and plays a role in type 1 diabetic osteoporosis; it promotes proliferation of pulmonary fibroblasts, enhances their transition to myofibroblasts, and increases collagen synthesis and activation of ERK and Akt.

References


