

Non-Confidential Disclosure

 Immune Disease Institute	Office of Technology Development 3 Blackfan Circle, 3 rd Floor Boston, Massachusetts 02115 www.idi.harvard.edu
IDI 00-009	METHODS FOR DIAGNOSING THROMBOTIC DISORDERS

Application: Method for diagnosis of thrombotic disorders in humans.

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Invention Summary:

The level of soluble form of P-selectin (sP-sel) in plasma may be used to assess the presence or risk of thrombotic disorders in humans. Specifically, an increased level of sP-sel in human plasma compared to normals determines a procoagulant state and indicates the presence or risk of developing a thrombotic disorder. A 2001 clinical study of 345 women demonstrated that sP-sel levels were elevated among apparently healthy women who subsequently experienced cardiovascular events.

P-selectin, a member of the selectin family, is found on the surface of platelets and endothelial cells. A soluble form of P-selectin is found in blood plasma as a protein on circulating microparticles. However, the biological role of sP-sel and other soluble adhesion molecules circulating in the blood has not been known. Previous work by Dr. Wagner et al. has shown that P-selectin plays a role in hemostasis. Wild type mice infused with a P-selectin immunoglobulin fusion protein (P-sel-Ig) produced a procoagulant state, which accelerated hemostasis. More recent studies showed that, in human blood, P-sel-Ig induced formation of procoagulant microparticles upon binding to the P-selectin glycoprotein ligand-1 (PSGL-1). For diagnostic purposes, sP-sel plasma levels correlate with cardiovascular risk via clot formation.

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Nature Medicine, Vol. 9, No. 8: 1020-1025, Aug. 2003
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Availability: Exclusive and nonexclusive worldwide licenses

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