
Pacific Biomarkers
The Value of Expertise

# PAI -1 (Plasminogen Activator Inhibitor-1)

**Analyte:** Plasminogen Activator Inhibitor 1

**Specimen Type:** Frozen Citrate or EDTA Plasma

**Optimum Volume:** 0.5 mL *

**Stability:**

| 2-8 Degrees C | -20 Degrees C | -70 Degrees C |
|---|---|---|
| Unstable* | N.A.* | N.A.* |

**Reporting Units:** ng/mL

**Method:** ELISA

## Biological or Clinical Significance:

Plasminogen activator inhibitor-1 (PAI – 1) is the principal inhibitor of tissue plasminogen activator and urokinase, the activators of plaminogen and hence fibrinolysis.

PAI-1 is present in increased levels in various disease states (such as a number of forms of cancer), as well as in obesity and the metabolic syndrome. It has been linked to the increased occurrence of thrombosis in patients with these conditions. In inflammatory conditions in which fibrin is deposited in tissues, PAI-1 appears to play a significant role in the progression to fibrosis (pathological formation of connective tissue) and hence an acute phase reactant. Presumably, lower PAI levels would lead to less suppression of fibrinolysis and conversely a more rapid degradation of the fibrin.

The clinical interest in measuring PAI-l in plasma is based on studies in which high levels of PAI-1 activity are found in patients suffering from deep venous thrombosis, myocardial infarction and septicemia. Studies also show that PAI-1 activity correlates well with PAI-1 antigen in plasma samples. However, platelets contain large amounts of stored PAI-1 that is released in an inactive form hence affecting PAI-1 antigen values but not PAI-1 activity values. These findings indicate that platelet release should be avoided.

PAI-1 has diurnal variation, with higher concentration in the morning and decreased concentration in the afternoon.

## Principle of Test Method:

The PAI-1 assay is a solid-phase ELISA that employs the quantitative sandwich enzyme immunoassay principle. *Note: Due to instability of the sample, two aliquots (0.5 mL each) are recommended in order to perform repeat analysis if needed.

*Please contact PBI for stability information.

## References:

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