

The Effect of Temperature and Standings Can Cause Deviations in
Prostate Specific Antigen (PSA) Assays

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Abstract

Blood samples were assayed for PSA values immediately after sampled or by standing for an assigned period. Variation of the free- (f), total- (t) values, and the free to total (f/t) ratios were determined. Mathematical models were used to interpret the phenomena of deviation. Smaller values of PSA values changed randomly with time and temperature of standings, resulting in varying f/t ratios, while larger initial PSA values were relatively unaffected to any significant extent.

Model interpreted that the changes of PSA values might be caused by higher temperature and time of standings, and conformational participation was also possible.

Key words : Prostate specific antigen (PSA); Mathematical model; Assay of PSA