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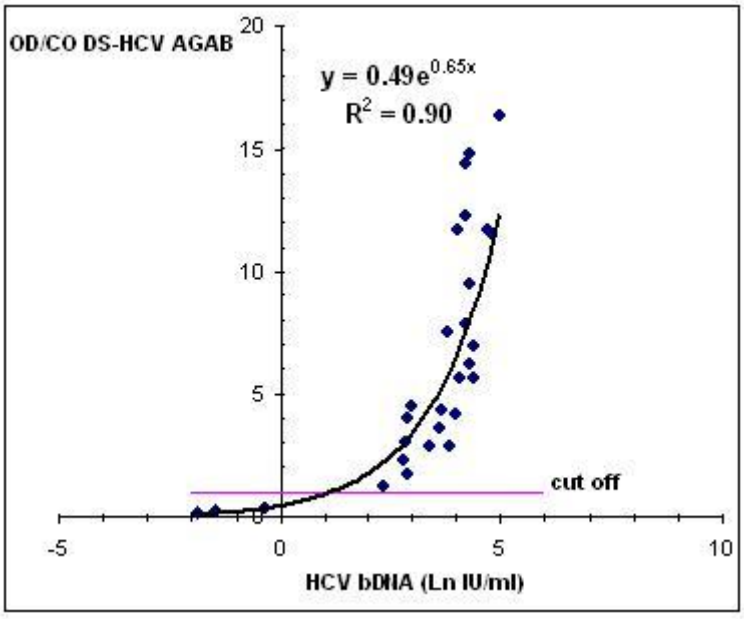
CORRELATION BITWEEN VIRAL LOAD AND SIGNAL IN COMBO-HCV-Ag/Ab ENZYME IMMUNOASSAY IN HUMAN SERUM OR PLASMA

Objectives: To improve laboratory diagnostics of hepatitis C virus (HCV) infection especially for blood service immunoenzyme assay for simultaneously detection of hepatitis C virus core antigen and antibodies has been developed. Aim of this study was to establish correlation between viral load and signal in Combo-EIA in the window period of HCV infection.
Methods: 28 serum samples from six commercial available seroconversion panels (Zeptometrix, USA; 6213, 9041, 9044, 9045, 9047, 10062) were tested with DS-EIA-HCV-AGAB (RPC Diagnostic Systems, Russia). All tested samples were collected during the window period of HCV infection. Viral load was determined with branched chain DNA assay (bDNA) (data from datasheets of panels).
Results: Twenty five out of 28 serum samples were reactive with DS-EIA-HCV-AGAB. Relationship between viral load and cut off index in DS-EIA-HCV-AGAB is shown in Figure. An exponential function is the best fitting the distribution of the data is with R^2=0.90. Analysis of regression curve for signal to cut off ratio in AGAB test and viral load (LnbDNA) shows that cut off value in AGAB test corresponds to HCV bDNA concentration of 1.09 Ln IU/ml.



Conclusions: This data demonstrated that for window period of HCV infection serum HCV core Ag level correlated well with serum HCV RNA levels as determinated by the bDNA assay. Therefore Combo-HCV-AGAB test can bealternative to HCV RNA detection for diagnosis or blood screening when nucleic acid technologies are not implemented.

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