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Poster Presentation

NAT Screening: A Study on Stability of HCV and HIV-1 Nucleic Acids

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Background:

NAT with Procleix HIV-1/HCV Assay for HIV and HCV RNA detection has been routinely performed since November 2001. Our laboratory receives blood drawings coming from 3 AVIS collection points, located in Piemonte Region. The specimen are placed in PPT tubes, transported to the NAT laboratory in appropriate refrigerated containers, in compliance with the rules in force, and then centrifuged and tested within 6 hours after the drawing.

Methods:

Stability tests we re performed on samples collected in tubes with other coagulants and serum tubes. The variation of RLU signal was assessed according to: 1) Type of anticoagulant; 2) Absence of anticoagulant; 3) Time elapsed between the sample arrival at the laboratory and the test performance (12, 24, 48, and 72 hours); 4) Sample storage conditions: T (room), T(2-4°C), T (- 3 0 ° C) .

Results:

1)Samples from HCV-infected patients collected in PPT tubes or in tubes with ACD, EDTA or heparin demonstrate very good stability 2) Normal plasma samples spiked with HCV and collected in PPT tubes or in tubes with EDTA or ACD show good stability (the signal falls if tubes with heparin are used or the sample is stored over 24h at T(room). 3) Normal plasma samples spiked with HIV and collected in PPT tubes or in tubes with EDTA show good stability (the signal falls with other anticoagulants or if the sample is stored over 24 h at T(room). 4) Freezing: the stability is approx. 90% up to the third cycle, approx. 60-70% up to the fifth cycle, approx. 50% up to the tenth cycle.

Conclusion:

The modalities of collection, transportation, storage, and handling of samples for NAT do not require particular measures. PPT tubes or tubes with EDTA should be preferred; samples should not be stored over 24 hours at T(room) and should not undergo more than three freeze-thaw cycles.