REVIEW

Simplicity Through Complexity: Immunoblot With Recombinant Antigens as the New Gold Standard in Epstein-Barr Virus Serology

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SUMMARY

Immunofluorescence tests have been the gold standard in Epstein-Barr virus (EBV) serology during the past decades. Despite their high quality they cannot resolve significant problems with i) antinuclear reactivity of some sera, ii) missing anti-EBNA-1 response in 5% of healthy individuals, and iii) loss of anti-EBNA-1 during immunosuppression. Immunoblots with recombinant EBV antigens (either in the Blot or the Line assay version) allow unequivocal serological diagnosis also in those cases that are problematic for immunofluorescence testing, 1) since due to the use of purified recombinant antigens, antinuclear reactivities are no problem, and 2) since a combination of two late markers is tested (p72 and p18). Positive p18-IgG thereby defines those cases of past infections in which p72-IgG (anti-EBNA-1) is missing or has been lost. In nearly all cases, a single IgG test is sufficient for a definitive serological diagnosis. Whenever required, the immunoblot technique allows precise quantitation and avidity determination. The immunoblot with recombinant antigens represents the most sensitive, unequivocal and simple test system available at present, with the highest complexity of information obtained. Therefore, the immunoblot with recombinant antigens should be regarded as the new gold standard in EBV serology. (Clin. Lab. 2001;47:223-230)