Respiratory syncytial virus detection by dot blot hybridization with a nonradioactive synthetic oligo deoxynucleotide probe

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A synthetic oligodeoxynucleotide corresponding to a region of the nucleocapside gene (N) of respiratory syncytial virus (RSV), was used as a DNA probe to develop a nonradioactive hybridization assay for the detection of RSV. The probe was labeled by incorporation of biotin?7?dATP to the 3? end by a reaction catalyzed by terminal deoxynucleotydil transferase. The dot blot hybridization assay was found to be specific for RSV when tested against RSV isolates (subgroups A and B) obtained from cell cultures and isolates of adenovirus, reovirus, rotavirus, and pararotavirus. The assay detected both RSV subgroups (A and B) without significant differences. The dot blot hybridization assay using the nonradioactive probe led to similar results to indirect immunofluorescence (IFI) when tested against a panel of 64 clinical samples from nasopharyngeal secretions of infants with clinical symptoms of respiratory disease. This assay may provide the basis for a rapid, simple, and inexpensive method fo