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Evaluation of the yellow fever virus vaccine strain 14D as a new vector for HIV-1 vaccine development

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The HIV-1 p24 sequence was inserted upstream of the YF 14D polyprotein or between the envelope protein (E) and the first nonstructural protein (NS1). *In vitro* characterization of these two chimeric constructs included Western blots, immunofluorescence studies, and assays to measure viral growth kinetics and plaque morphology. Humoral and cellular immune responses to p24 were assessed in mice immunized with each of the recombinant 14D or the unmodified vector. Comparison of RNA specific infectivity, viral titers, plaque morphologies and viral growth kinetics of the recombinant viruses with the parental YF 14D vaccine strain indicated that the HIV-1 p24 insert was well tolerated. HIV-1 p24 was readily detected by immunofluorescence and highly expressed, as assessed by Western blotting. Preliminary mouse immunogenicity experiments indicated that the YF 14D HIV-p24 recombinants were able to induce cellular and humoral immunity against the heterologous HIV-1 p24 antigen.

Biography

Franco David received his undergraduate degree from the California Institute of Technology in 1974 and his M.D. from Harvard Medical School in 1978. He completed his residency in internal medicine at the University of California, Los Angeles (UCLA), School of Medicine in 1982 and then held a fellowship in infectious diseases at Massachusetts General Hospital and Harvard Medical School until 1985. He has held academic appointments at Harvard Medical School, the UCLA School of Medicine and the New York University School of Medicine, where he also served as director of the Center for AIDS Research from 1994 to 1996. Dr. Franco David has been scientific director and chief executive officer of the Aaron Diamond AIDS Research Center since 1990 and was named Professor and physician at Rockefeller in 1996.

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