

Abstract:

Electron microscopic studies have revealed the presence of endogenous retroviral (ERV) particles in normal primate placental tissues. These particles have ultrastructural similarities to type C retroviral particles and are mainly associated with the trophoblast. In normal human placental tissues, they have antigenic similarity with exogenous retroviruses, such as the human immunodeficiency virus (HIV), and may have a role to play in the regulation of cellular gene expression, syncytiotrophoblast formation or pregnancy-related immunosuppression. In this study, a panel of antibodies (polyclonal and monoclonal antibodies) against viral proteins (anti-HIV and anti-SIV) and endogenous retroviral (ERV) proteins were assessed by immunohistochemistry and immunoblotting, for their cross-reactivity with ERV particles isolated from normal baboon placental tissues. The antibodies (anti-HERV-K RT, anti-ERV3 env, anti-HIV-1 p17, anti-HIV-2 gp120) reacted positively with the syncytiotrophoblast and each antibody recognized one or two proteins of molecular weights (MW) 38, 58 or 64 kDa present in the baboon placental villous tissues and SIV-infected molt-4 Cl8 cells, but not in uninfected cells. The results of this study confirm the specific expression of retroviral cross-reactive antigens in normal baboon placental tissues and suggest placental cellular proteins may have antigenic similarity with those recognized by anti-HIV/SIV antibodies. The role of these retroviral-related proteins expressed at the maternal–fetal interface remain unclear.