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Exploring Kaposi's sarcoma-associated herpesvirus latent genes' role in viral lymphomagenesis using transgenic mice

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Kaposi's sarcoma-associated herpesvirus (KSHV) is a human lymphotropic gammaherpesvirus and associated with Kaposi sarcoma as well as two B cell lymphoproliferative disorders: primary effusion lymphoma (PEL) and multicentric Castleman disease. We reported that the KSHV latency-associated nuclear antigen (LANA) transgenic mice developed splenic follicular hyperplasia and showed increased germinal center formation. Here we report that the KSHV LANA-induced B cell activation is CD19 dependent and LANA restores the marginal zone defect in CD19-/- mice. To test KSHV latent genes' role in viral lymphomagenesis, we generated mice expressing all KSHV latency-associated genes. All of the transgenic mice induced mature B cell activation. Further characterization of the mice expressing all KSHV latency-associated genes is currently underway.