Leukemogenesis by Murine Leukemia Viruses: Lessons for Koala Retrovirus (KoRV)

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ABSTRACT. Murine leukemia viruses (MuLVs) are the prototypical gammaretroviruses, and they have been extensively studied with regard to how they cause disease. Leukemogenesis by two MuLVs is reviewed here: the endogenous Akv MuLV of AKR mice, and exogenous Moloney MuLV. Important features of MuLV leukemogenesis include the in vivo generation of envelope recombinants (MCFs) through recombination with endogenous MuLVs, and induction of preleukemic changes typified by splenic hyperplasia secondary to bone marrow defects. Studies of MuLV leukemogenesis help to frame virological questions about how koala retrovirus (KoRV) may induce neoplastic or other diseases in koalas.