

## Moloney Murine Leukemia Virus (MoMuLV) <sup>(9)</sup>

**Virology:** Retroviridae; subfamily oncovirinae type C, enveloped, icosahedral core, virions 100 nm in diameter, diploid, single stranded, linear RNA genome. MoMuLV integrates into the host genome and is present in infected cells as a DNA provirus. Cell division is required for infection. Virus is not lytic.

Data suggests a pathogenic mechanism in which chronic productive retroviral infection allowed insertional mutagenesis leading to cell transformation and tumor formation. The nature of a transgene or other introduced genetic element may pose additional risk.

The host range of recombinant MoMuLV vectors is dependent on the specificity of the viral envelope. The ecotropic env gene produces particles which infect only murine cells. Amphotropic env allows infection of murine and nonmurine cells, including human cells. VSV-G envelope allows infection in a wide range of mammalian and non-mammalian cells.

**Clinical features:** None to date.

**Epidemiology:** MoMuLV infects only actively dividing cells. In mice, the virus is transmitted in the blood from infected mother to offspring. Transmission may also occur via germline infection. In vivo infection in humans appears to require direct injection with amphotropic or pseudotyped virus.

**Treatment:** No recommended treatment.

**Laboratory Hazards:** Contact with feces or urine from infected animals for 72 hours post infection. Contact with tissues and body fluids of infected animals. Direct injection.

Laboratory Hazards	PPE
Exposure of mucus membrane (eyes, nose, mouth)	Use of safety goggles or full face shields. Use of appropriate face mask
Injection	Use of safety needles; NEVER re-cap needle or remove needle from syringe
Aerosole inhalation	Use of appropriate respiratory protection
Direct contact with skin	Gloves, lab coat, closed shoes

The above PPE are often required IN ADDITION to working in a certified Biosafety Cabinet.

**Use with Animals:** BL1 housing.