

POSTER 31**FACTORS IN MLV ENVELOPE REQUIRED FOR RECRUITMENT TO HIV-1 BUDDING SITES**

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Murine Leukemia Virus (MLV) envelope (Env) proteins are capable of efficiently coupling (pseudotyping) with Human Immunodeficiency Virus-1 (HIV-1) to form infectious viral particles. Mature MLV Env is a heterodimeric protein consisting of an extracellular surface region (SU) bound to the transmembrane region (TM), which extends through the membrane into the cell cytoplasm. Infectivity studies have demonstrated that Env from Gibbon Ape Leukemia Virus (GaLV) and RD114 do not efficiently form infectious viral particles when pseudotyped with HIV-1. However, GaLV and RD114 Env chimeras with MLV C-terminal tails do produce infectious viral particles when coupled with HIV-1. In this study, we sought to identify the factors in MLV Env that are required for its assembly into infectious HIV-1 particles. To identify domains of MLV Env required for pseudotyping, we created a library of MLV Env variants with a series of truncations, point mutations or chimeric replacements with GaLV or RD114. Using a scanning electron microscopy (SEM) technique, we imaged the distribution of each of these Env proteins on the cell surface to determine if they are still recruited to viral budding sites. Surprisingly, none of the alterations to the C-terminal tail disrupted recruitment to HIV-1 budding sites. These results indicate that the TM cytoplasmic tail is dispensable for recruitment of MLV Env at the plasma membrane to viral budding sites. Because we have demonstrated that our variant Env proteins assemble at budding sites, recruitment cannot directly explain the lack of infectivity observed in these pseudotyped HIV-1 particles. Factors that are responsible for facilitating the recruitment of MLV in HIV-1 Env have not been elucidated.