

Attenuated measles virus controls pediatric acute B-lineage lymphoblastic leukemia in NOD/SCID mice

Nike C. Lühl,^{1*} Felix Zirngibl,^{1*} Carmen Dorneburg,¹ Jiwu Wei,² Meike Dahlhaus,¹ Thomas F.E. Barth,³ Lüder H. Meyer,¹ Manon Queudeville,¹ Sarah Eckhoff,¹ Klaus-Michael Debatin,¹ and Christian Beltinger¹

¹Department of Pediatrics and Adolescent Medicine, University Medical Center Ulm, Germany; Laboratory of Biological Cancer Therapy, Jiangsu Key Laboratory of Molecular Medicine, School of Medicine, Nanjing University, China; and ³Department of Pathology, University Medical Center Ulm, Germany

*FZ and NCL contributed equally to this work.

©2014 Ferrata Storti Foundation. This is an open-access paper. doi:10.3324/haematol.2014.114314

On page 1052 in the June 2014 issue there is an error in Figure 1E. The correct Figure 1 is shown.

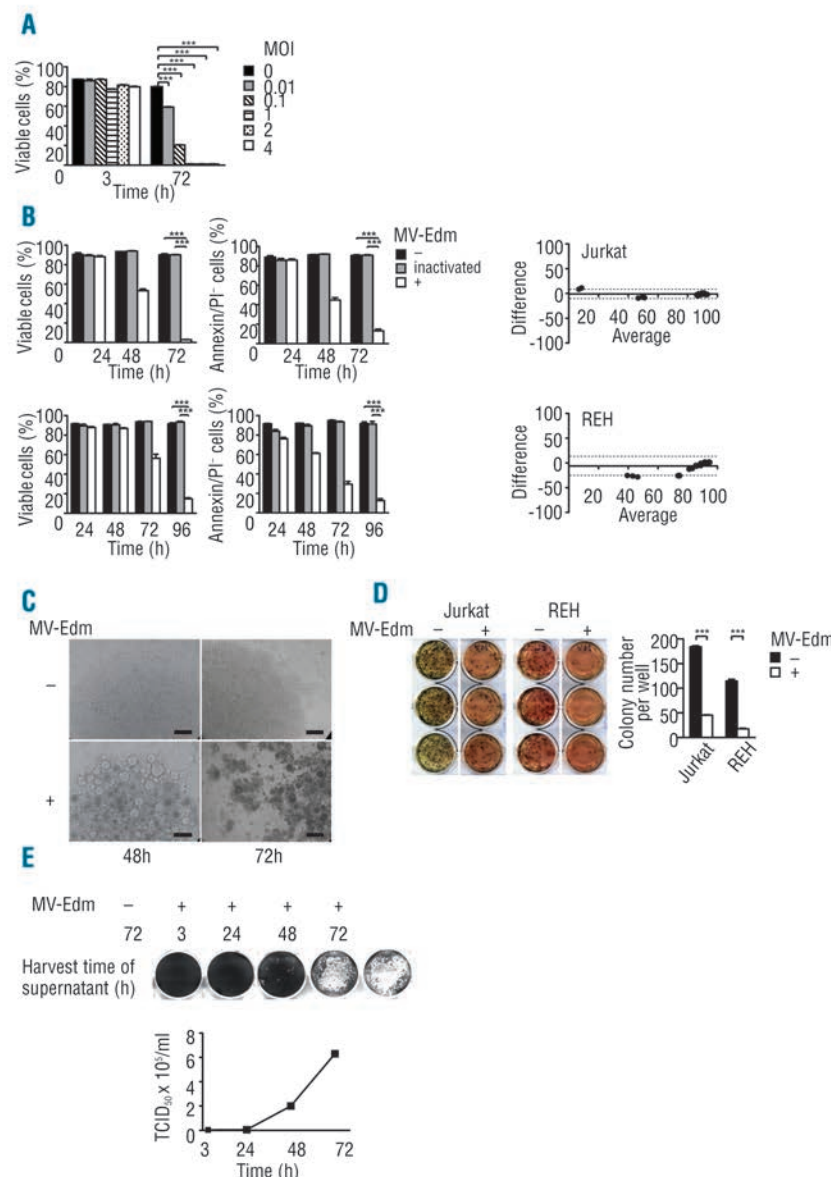


Figure 1. MV-Edm effectively replicates in and kills ALL cell lines (A) Dose-dependent killing of Jurkat cells. Jurkat cells (4×10^4 cells per well in a 96-well plate) were infected with MV-Edm at increasing MOIs. Cell viability was determined at 3 h and 72 h by FACS using FSC/SSC analysis. Results are means \pm SD of triplicates and are expressed as percentage of total cells. Similar results were obtained in 2 independent experiments. (B) Time-dependent killing of Jurkat and Reh cell lines. 4×10^4 cells per well were incubated with MV-Edm at a MOI of 1 (“+”), with heat-inactivated MV-Edm (“inactivated”) or with medium (“-“). Cell viability was determined by FSC/SSC analysis (left panels) and Annexin V/PI staining (middle panels). Results are means \pm SD of triplicates and are expressed as percentage of total cells. Agreement between forward/side scatter and Annexin V/PI analyses was determined using Bland-Altman plots (right panels). Mean difference (bias) is indicated by a solid line, ± 1.96 standard deviations of the differences (95% limit of agreement) by dashed lines. Average denotes average of results of both methods. Similar results were obtained in 3 independent experiments. (C) Formation of syncytia in Jurkat cells. Jurkat cells were seeded in 96-well plates (4×10^4 cells per well in a 96-well plate) and infected with MV-Edm at a MOI of 1 or were left uninfected. 48 h and 72 h post infection cells were assessed by light microscopy. Bars equal 200 μ m. (D) Reduced clonogenicity of Jurkat and REH cells. REH and Jurkat cells infected with MV-Edm at a MOI of 1 were seeded in 6-well plates (1×10^3 cells per well) in methylcellulose-containing medium. 14 d later viable colonies were stained by MTT (left panels) and counted (right panel). Similar results were obtained in 2 independent experiments. (E) MV-Edm replicates in Jurkat cells. Jurkat cells (2.5×10^6 cells per 25 cm² flask) were infected with MV-Edm at a MOI of 1. Cell supernatants were collected at the time points indicated and added to Vero cells. Syncytia formation was determined (upper panel). To quantitate replication infected Jurkat cells were lysed and the TCID₅₀ was determined using Vero cells (lower panel). *** $P < 0.001$ using the unpaired t-test.

On page 1055 in the June 2014 issue there are some errors in the footnote. The correct footnote is shown.

Figure 5. In NOD/SCID mice with B-lineage ALL xenografts MV-Edm eradicates or profoundly decreases peripheral blasts leading to survival of most mice. NOD/SCID mice with the common ALL xenografts #15 and #13, the pro B ALL xenograft #6 and the pre B ALL xenograft #19 received MV-Edm ("+", n = 8), inactivated MV-Edm ("inactivated", n = 8) or no MV-Edm ("-", n = 8, #15 only) each d for 5 d once peripheral CD45⁺Ly5⁻ leukemic blasts reached 5-20%, as determined by FACS. (A) Peripheral leukemic blasts and survival. Peripheral CD45⁺Ly5⁻ leukemic blasts were monitored by FACS analysis (left panels). Kaplan-Meier survival plots were generated (right panels; *** P<0.001, ns = not significant using the log rank test). (B) Leukemic burden in blood and spleen of mice with xenograft #13 markedly decreases following treatment. The percentages of CD45⁺Ly5⁻ leukemic blasts in the last blood sample procured before death are compared (left panel; means +SD for each group are depicted, ***P<0.001 using the unpaired t-test). Spleens were procured after death and photographed (right panel, scale bar equals 3 cm).

On page 1056 in the June, 2014, under the section "In vivo, MV-Edm eradicates or markedly decreases peripheral blasts of B-lineage ALL leading to survival of most mice" (which begins on page 1055) there is an error in the sentence "All treated mice with the pro-B xenograft #6 survived until they were 238 d old, when mice died." The correct sentence should read: "All treated mice with the pro-B xenograft #6 survived until they were 238 d old, when 2 mice died."

On page 1056 in the June, 2014, under the section "In

vivo, MV-Edm eradicates or markedly decreases peripheral blasts of B-lineage ALL leading to survival of most mice" (which begins on page 1055), penultimate paragraph, there is an error in the sentence "However, 2 children with ALL that developed pneumonitis and encephalopathy respectively after MU vaccination have been described.^{56,57}" The correct sentence should read: "However, 2 children with ALL that developed pneumonitis and encephalopathy, respectively, after MV vaccination have been described.^{56,57}"