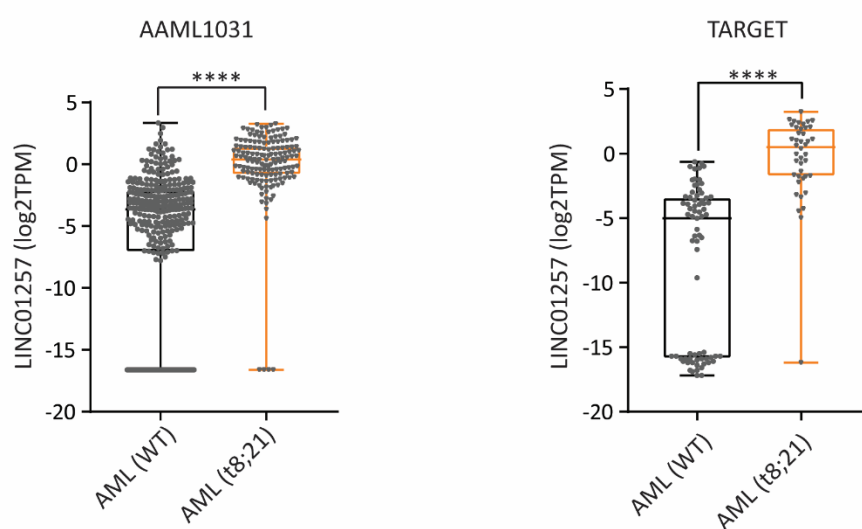


Supplementary Materials: Development of siRNA-Loaded Lipid Nanoparticles Targeting Long Non-Coding RNA LINC01257 as a Novel and Safe Therapeutic Approach for t(8;21) Pediatric Acute Myeloid Leukemia

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B

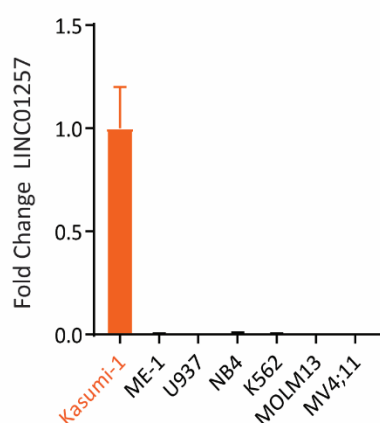




Figure S1. LINC01257 is an AML t(8;21) specific lncRNA. (A) Expression of LINC01257 in fusionless wild type (WT) karyotype and t(8;21) carrying patients from AAML1031 and TARGET datasets **** = $p < 0.0001$. (B) Expression of LINC01257 in panel of AML cell lines. t(8;21) AML cell line denoted in orange. (C) ChIP-seq analysis of H3K4me3 methylation across Kasumi-1 (AML), Jurkat (T-ALL) and Nalm6 (B-ALL) cell lines. Peak highlighted by orange box. t(8;21) AML cell line denoted in orange.

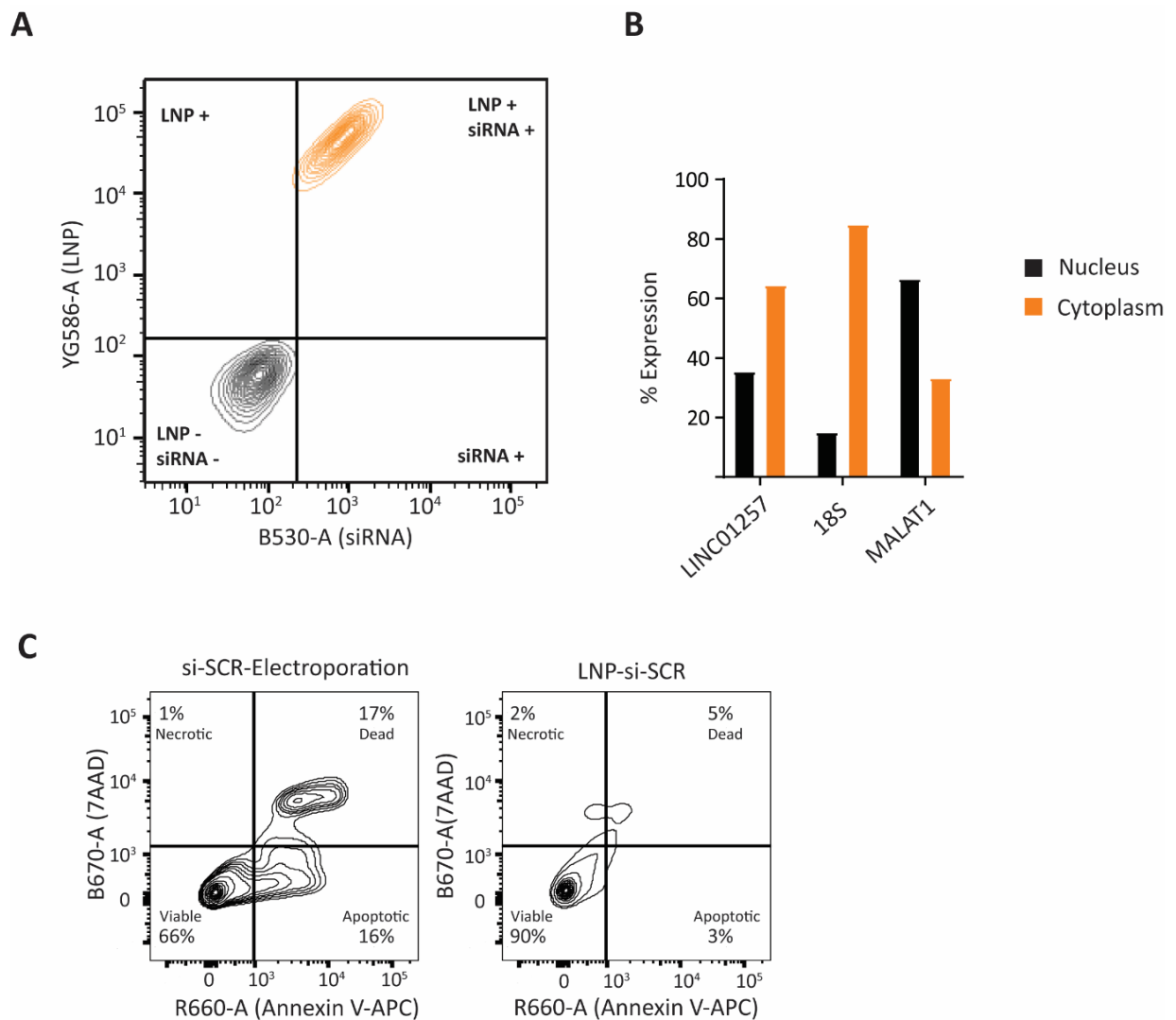


Figure S2. LNP-siRNA are non-toxic and efficiently taken up by Kasumi-1 cells. (A) Representative flow cytometry analysis of Kasumi-1 cell uptake of LNP-siRNAs. (B) RT-qPCR data from cytoplasmic and nuclear fractions of Kasumi-1 cells normalized as a total percentage. 18s and MALAT1 were used as cytoplasmic and nuclear controls, respectively. (C) Representative flow cytometry plots of Kasumi-1 cells stained with Annexin V/7AAD following electroporation or 72 h LNP-si-SCR treatment.

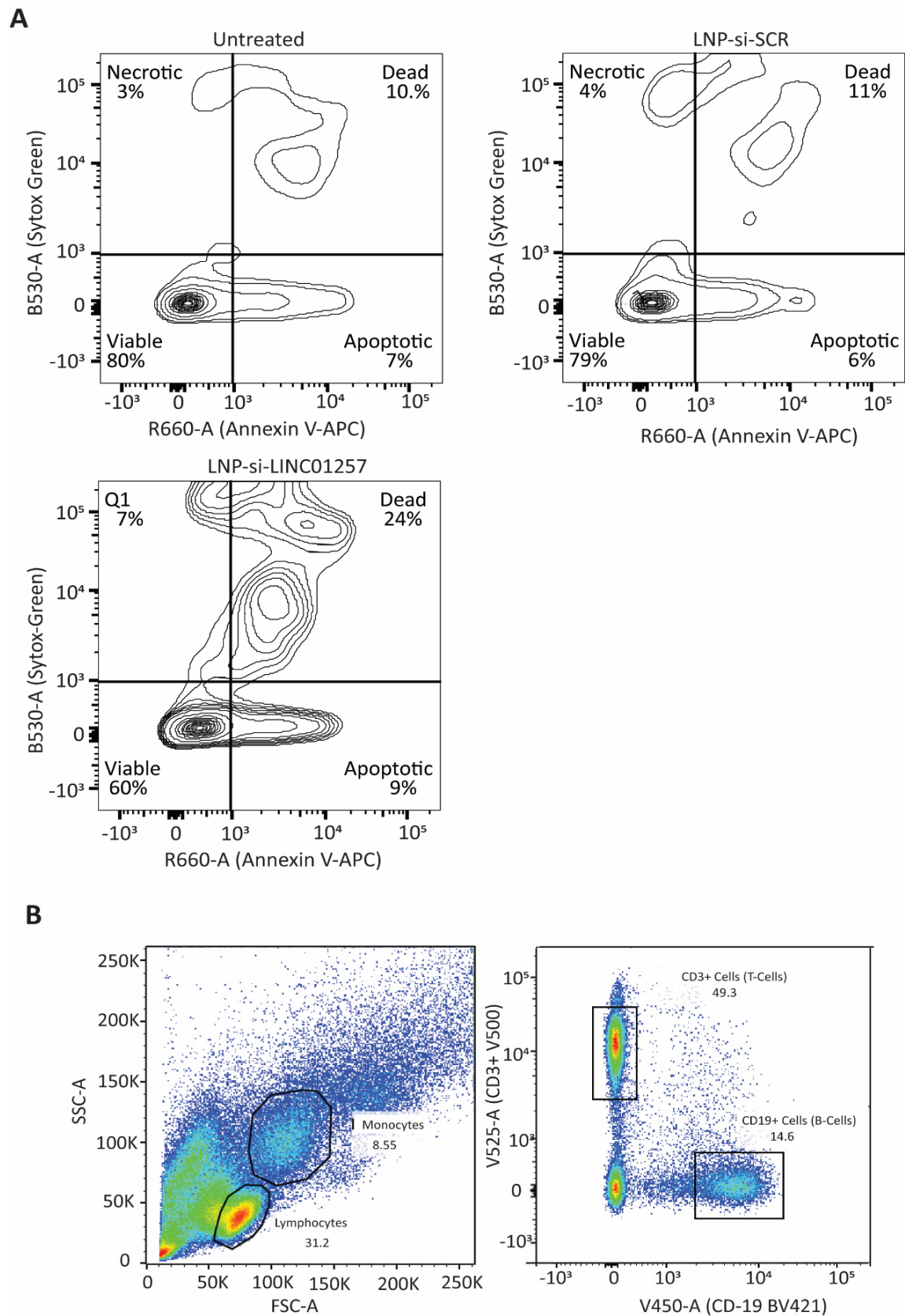


Figure S3. Flow cytometry gating of Kasumi-1 and PBMCs. (A) Representative flow cytometry plots of Kasumi-1 cells stained with Annexin V/Sytox following 48 h LNP-siRNA treatment vs untreated controls. (B) Representative flow plots of healthy PBMCs demonstrating monocyte, T-cell and B-cell populations.

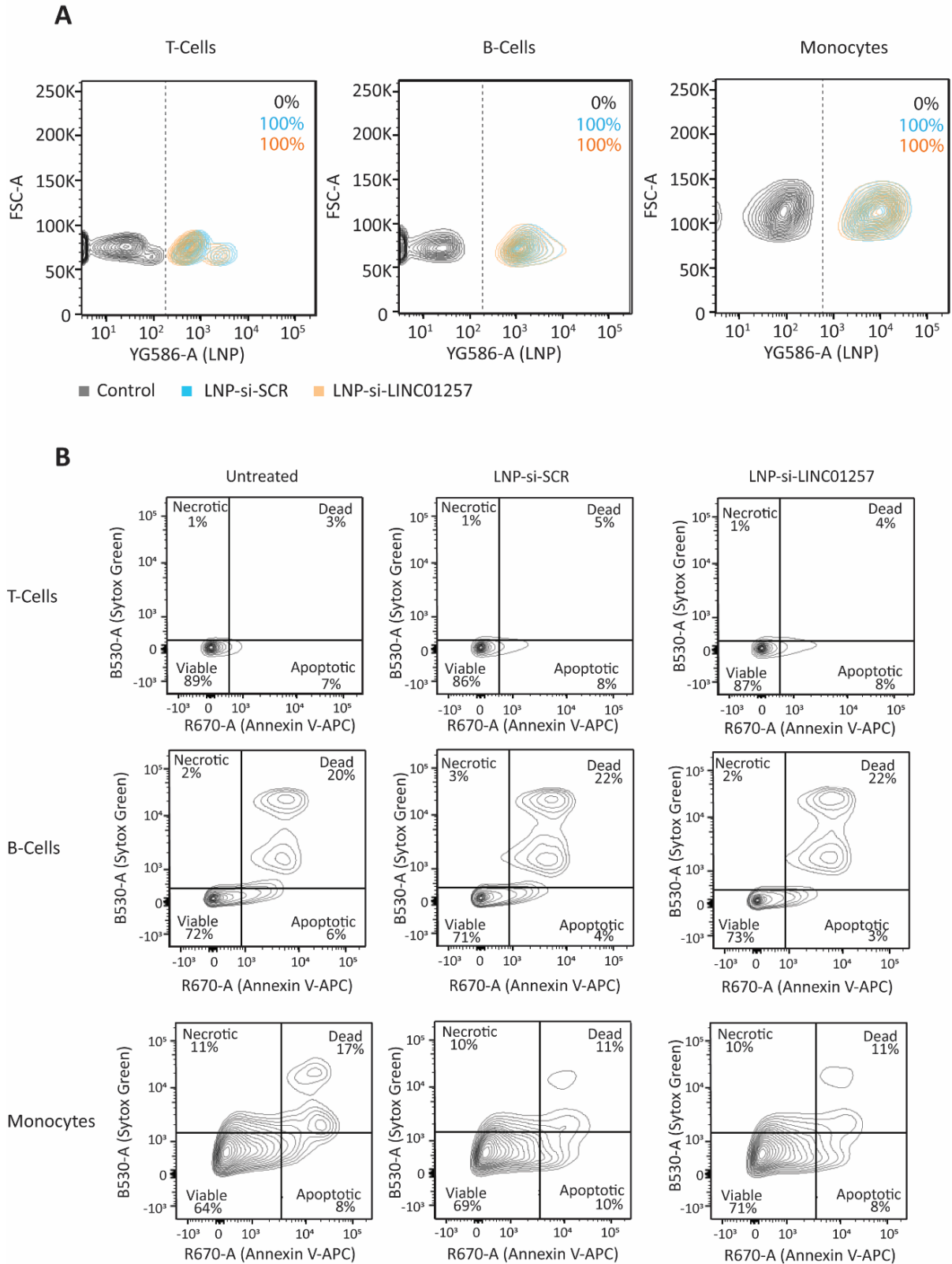


Figure S4. PBMCs efficiently take up and are unaffected by LNP-siRNAs. (A) Representative flow cytometry plots of LNP-si-SCR and LNP-si-LINC01257 uptake in T-cell, B-cell and monocyte populations from healthy donor PBMCs. **(B)** Representative flow cytometry plots showing the viability of T-cell, B-cell and monocytes treated with LNP-si-SCR or LNP-si-LINC01257 for 48 h compared to untreated controls.