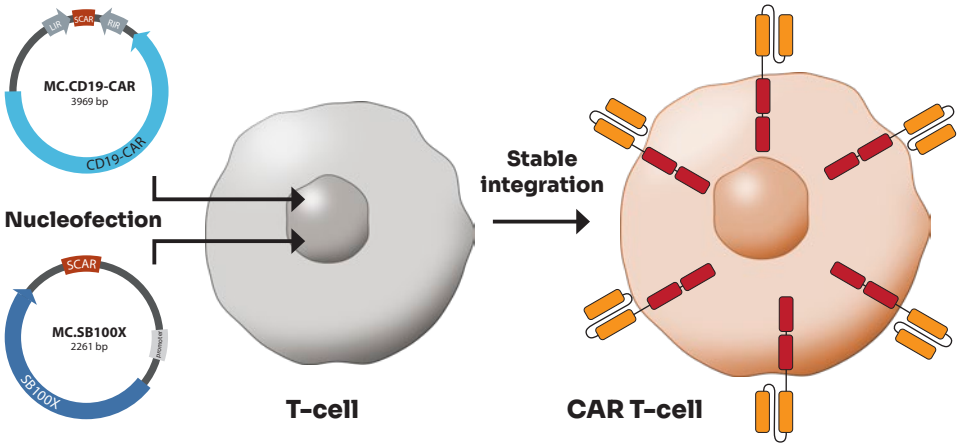
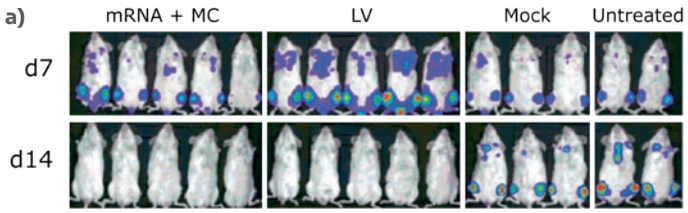
PlasmidFactory®
The *Minicircle* Company

Virus-Free Cell Engineering with Minicircles

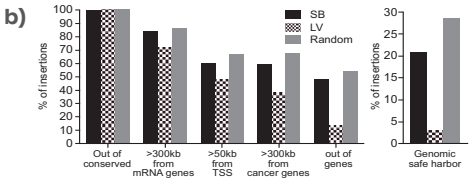


Minicircle advantages

- **Efficient** – improved transfection and stronger expression for hard-to-transfect cells
- **Flexible** – no cargo limits, supports complex transgenes
- **Safe** – reduced immunogenicity and lower DNA toxicity
- **Virus-free** – ideal for transposon and other non-viral systems
- **Scalable** – seamless path from research to GMP
- **Future-proof** – regulatory-ready and enabling *in vivo* engineering via e.g. LNP/PNP
- **Economic & fast** – shorter and cheaper production than viral vector systems



(a) Bioluminescence imaging of Raji-ff Luc lymphoma in NSG mice shows CD19-CAR T cells generated with SB100X mRNA and Minicircle DNA rapidly eradicated tumors, while control mice developed progressive disease.



Monjezi et al., Leukemia, 2016
Diez et al., Mol. Therapy, 2025

(b) Insertion-site analysis shows SB-transposon CAR T cells from Minicircles integrate preferentially into genomic safe harbors (20.8% vs. 3% for LVV), reducing insertional mutagenesis risk.

Discover the power of Minicircles and see how bacterial backbone-free DNA enables cleaner, safer and more efficient therapies

PlasmidFactory.com

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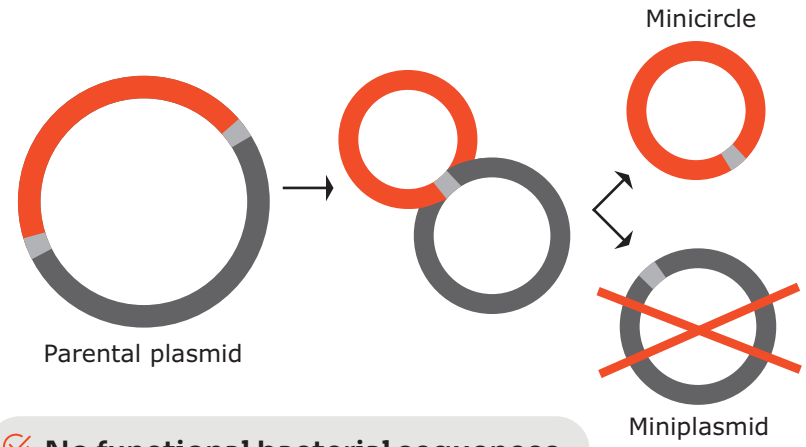
Minicircle – Engineered for Efficiency

The parental plasmid undergoes recombination, producing a supercoiled Minicircle with the gene of interest, while the bacterial backbone forms a miniplasmid that is removed during purification.



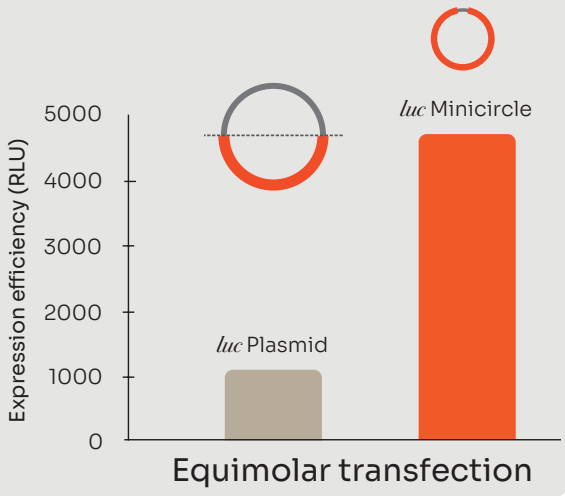
- **No functional bacterial sequences**
- **Smaller in size & monomeric**
- **Large-scale production up to GMP**

Small, precise, powerful

Minicircle advantages

- Higher transfection rate
- Better expression efficiency
- Increased yield – reduced costs
- Reduced transgene silencing
- Less DNA toxicity
- Lower safety risk

Available:
- License-free
- Globally
- In large scale



Minicircle manufacturing service: Your key to innovation

Efficient transfection, strong expression and low toxicity – clinically validated and trusted from research to GMP in CAR-T and advanced cell and gene therapies.

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