StemEdit

AI-designed Gene Editing Service & Landing Pad Technology

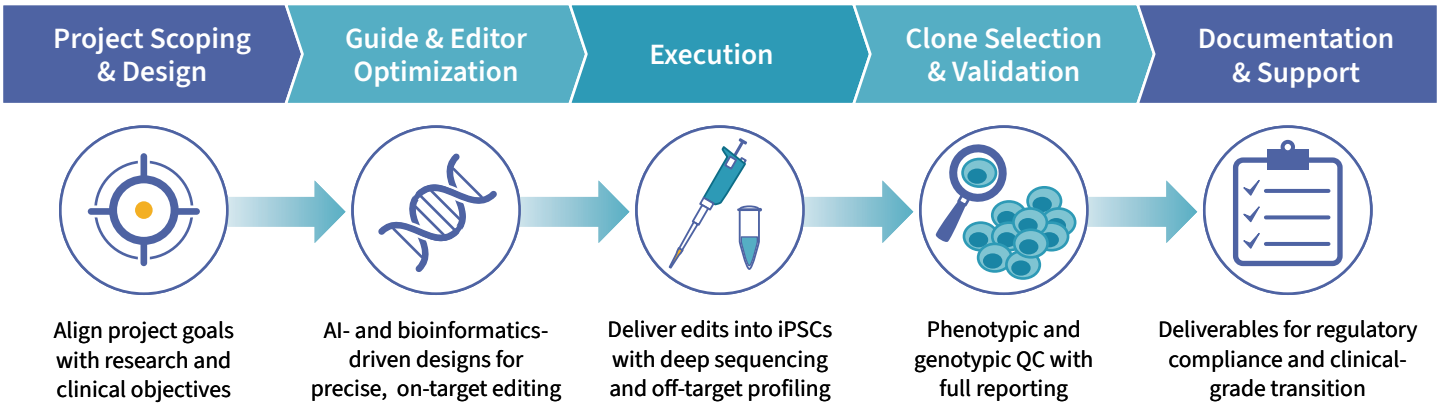
Ready-to-use Hypoimmune Cell Lines

StemEdit uses a *de novo* AI-designed RNA-guided CRISPR nuclease engineered for precise genome editing in human cells, combining high editing efficiency with reduced off-target activity and lower predicted immunogenicity.

StemEdit Service

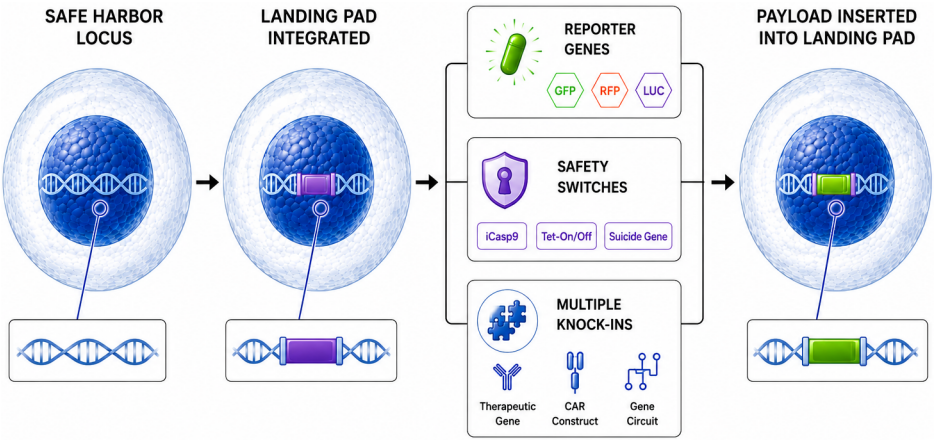
Research & Clinical Projects

StemEdit supports projects from early design through validated edited clones, reducing the technical gaps between discovery research and clinical development.



Landing Pad Technology

A reusable genomic docking site integrated into a safe harbor locus, enabling efficient gene insertion and replacement.



- Faster development timelines
- Precise safe-harbor integration
- Stable long-term gene expression
- Flexible plug-and-play payload exchange
- For research & translational workflows
- No license required

https://www.reprocell.com/gene-editing-services/stemedit

StemEdit Products

Ready-to-use StemEdit Hypoimmune iPSC lines with HLA Class I/II knockout are available for research and clinical translation. Derived from StemRNA™ Clinical iPSC Seed Clones, the female parental line (HLA-A & HLA-DPA1 homozygous, blood type O+) is designed for broad patient coverage and reduced immune recognition in allogeneic cell therapy. StemEdit OC-1 Protein is an AI-designed Cas alternative that enables high efficiency gene editing in your lab.

REPROCELL Cat. No.	Description	Size
RCRP052	**StemEdit hiPSC B2M/CIITA DKO RPC-LLF-34-F3**	1 vial
RCRP051	**StemEdit hiPSC CIITA KO RPC-LLF-34-F3**	1 vial
RCRP053	**StemEdit hiPSC B2M KO RPC-LLF-34-F3**	1 vial
03-0020	**StemEdit OC-1 Protein**	1 vial

Recommended Reagents: Culture medium: NutriStem™ hPSC XF Culture Medium ; Substrate: iMatrix-511 Stem Cell Culture Substrate
The StemRNA parent line is also available as research or clinical version. Please inquire: info-us@reprocell.com

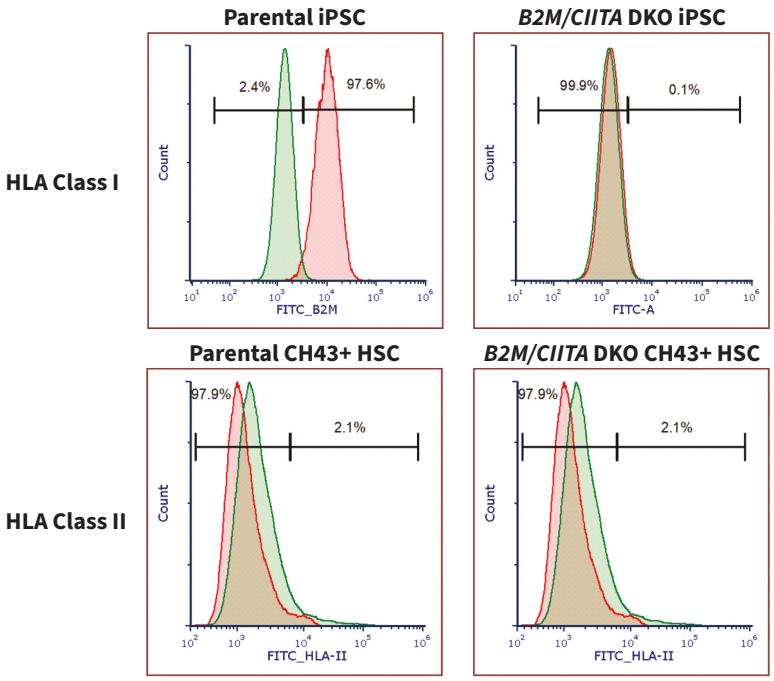
Pluripotency

B2M/CIITA double knockout cells (iPSC DKO line #RCRP052) were stained for common positive and negative pluripotency markers and analyzed by immunofluorescence microscopy and flow cytometry, demonstrating that the cells maintain high pluripotency.

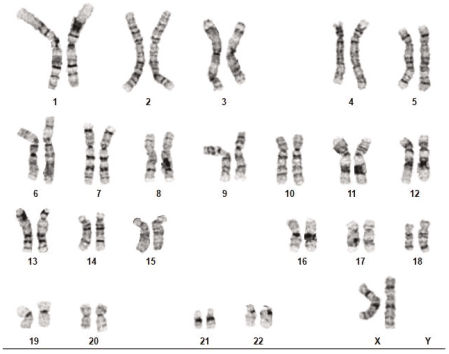
Mutation Analysis

Gene	Seq Result
HLA Class I	Absent
HLA Class II	Absent

Knockout of the *B2M* and *CIITA* genes in the DKO iPSC line #RCRP052 was confirmed by NGS. Functional loss of β2-microglobulin (B2M product) was validated by flow cytometry in iPSCs, and functional loss of CIITA was verified in iPSC-derived HSCs. Flow cytometry shows that double knockout of *B2M/CIITA* eliminates both HLA Class I and Class II surface expression.



Cell Line Characterization



Assay	Result
Karyotype	Normal (46 XX)
Bacteria and Fungi	Negative
SSEA4	Negative
Virus	Negative
STR (CellCheck)	Pass

REPROCELL BRANDS

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