iPSC

Comprehensive Solution

Provided by uBriGene's iPSC Production Platform

ubrigene®

Your bridge from ATMPs concept to commercialization

Autonomous IP of GC-DNA Production Process

Grade A Production Environment Single-use Enclosed Production

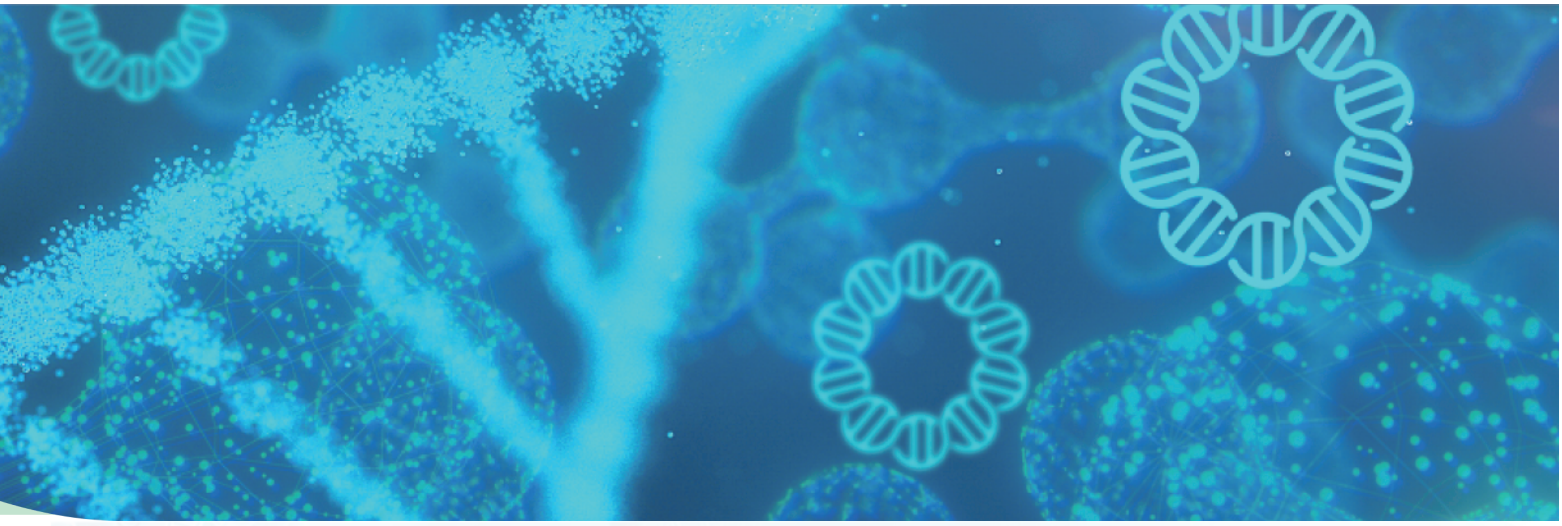
Full Process Compliant with GMP Standards

Canada
1208-13351 Commerce Parkway
Richmond, BC V6V 2X7 Canada

contact@ubrigene.com
www.ubrigene.com
+1 604 227 7066 / 1800 663 2528

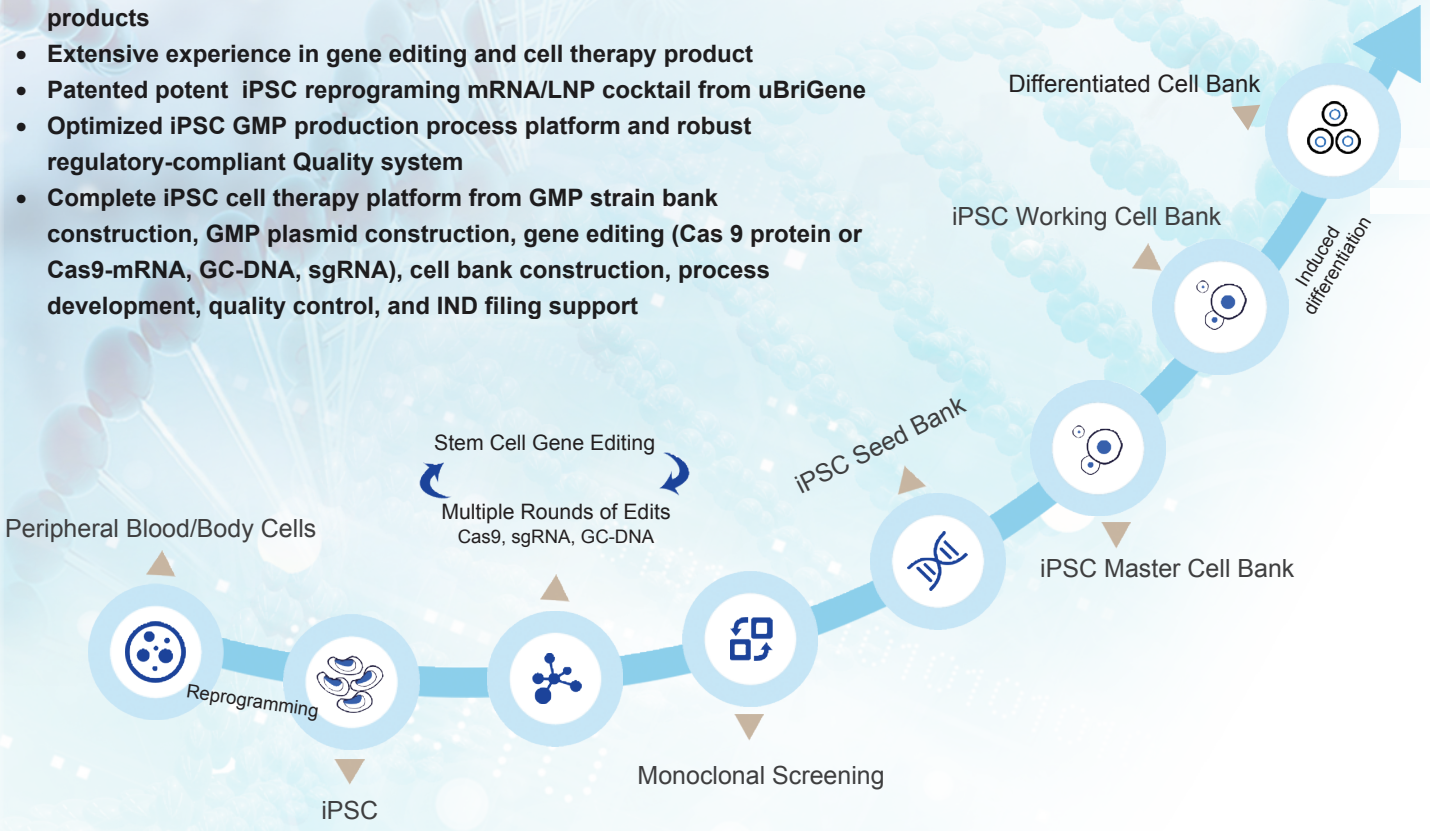
United States
20400 Century Blvd, STE125
Germantown, MD 20874

China
B16, 2nd Floor
Ai North Tower
No.218 Xinghu Street
Suzhou Industrial Park
Jiangsu Province 210000



uBriGene's Robust iPSC Platform

- **uBriGene offers comprehensive CDMO services for iPSC therapy products**
- **Extensive experience in gene editing and cell therapy product**
- **Patented potent iPSC reprograming mRNA/LNP cocktail from uBriGene**
- **Optimized iPSC GMP production process platform and robust regulatory-compliant Quality system**
- **Complete iPSC cell therapy platform from GMP strain bank construction, GMP plasmid construction, gene editing (Cas 9 protein or Cas9-mRNA, GC-DNA, sgRNA), cell bank construction, process development, quality control, and IND filing support**



IIT

Non-registered research grade plasmid, gene editing components, development and production of iPSC cell bank

IND

iPSC cell therapy new drug clinical filing plasmid, gene editing components and cell bank development and production

Clinial Trial Grade

iPSC cell therapy new drug plasmid, gene editing components and clinical stage I/II/III cell bank production

Commercialization

iPSC cell therapy new drug commercialized GMP production

iPSC Cell Therapy Comprehensive Solution

GMP Strain Bank Construction

Traceable strain bank
Original strain preserved

GMP Plasmid Construction

Scale of 10-50-200L, yield>1g/L.
Two step column chromatography purification with high yield, high recovery rate and manageable cost.

Cas9-mRNA/Cas9 Protein

GMP grade with multiple options
Lowers development and production costs

GC-DNA

Innovative closed-loop linear DNA
Increased stability within cells comparable to doggy-bone DNA, but without potential mutations

sgRNA

IVT sgRNA process is simplified, of lower cost, and no organic residues.
Higher gene editing efficiency
Shorter production timeline

iPSC Banking

Absolute class A production environment, fully isolated production process with zero contamination.
Extensive experience in cell therapy products.

Quality Control

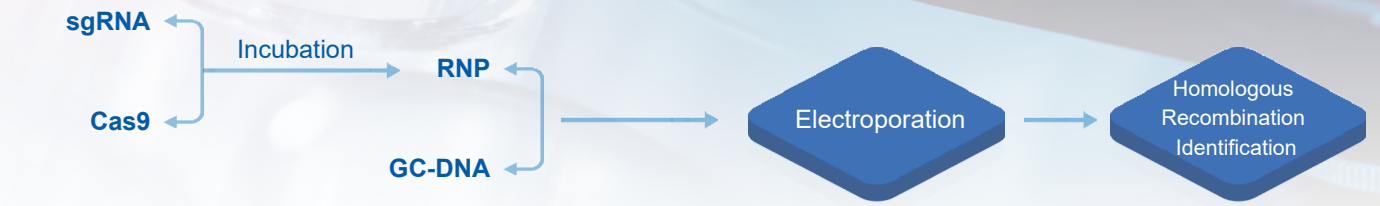
Stringent in process and characterization QC assays

IND Filing

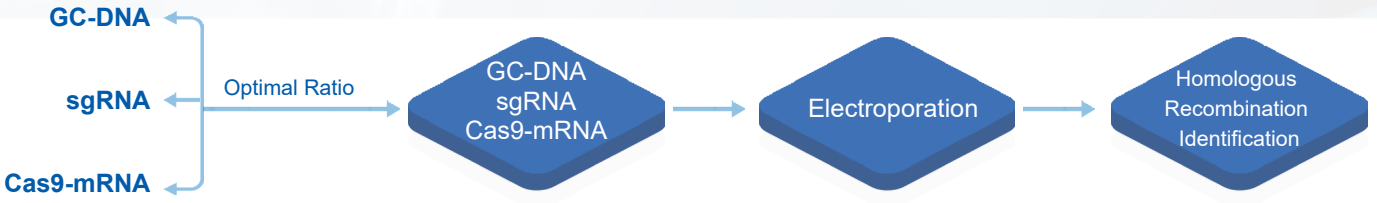
IND filing compilation service provided

Gene Editing Process Flow

- Using GC-DNA, sgRNA, Cas9 as basic components

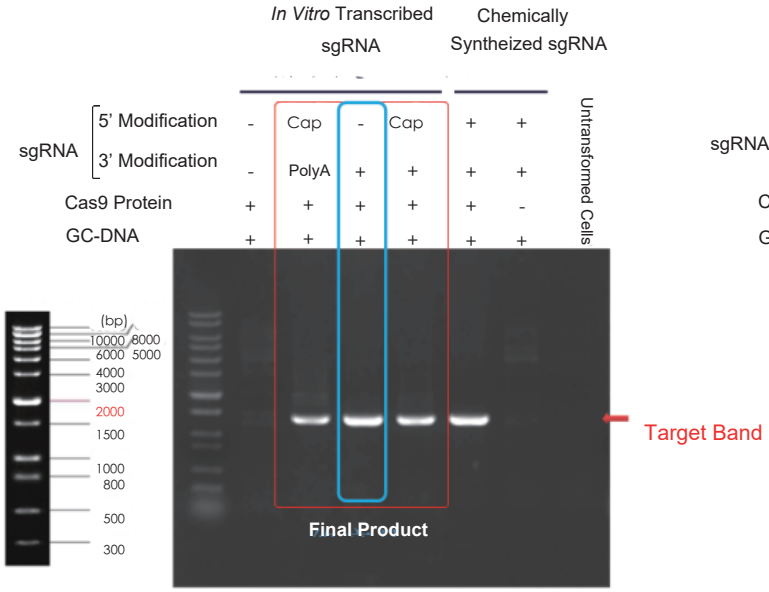


- Using GC-DNA, sgRNA, Cas9-mRNA as basic components

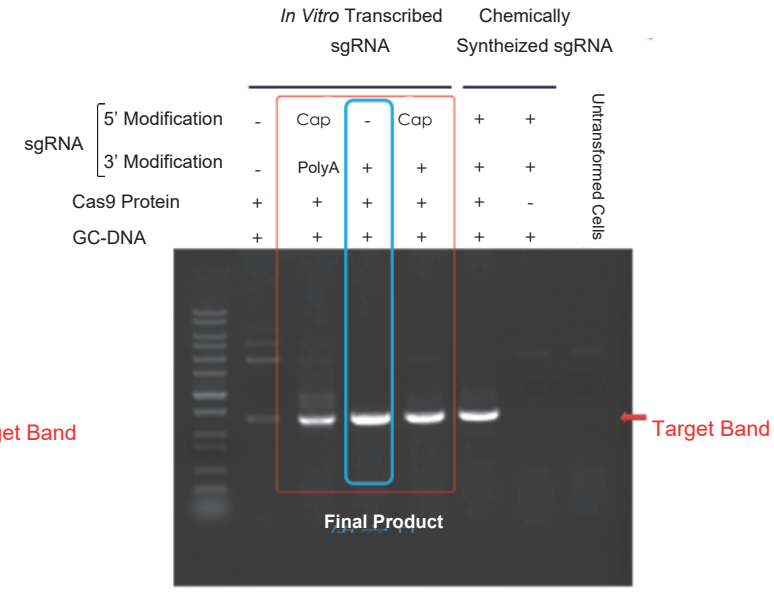


Higher Gene Editing Efficiency with sgRNA-IVT

PCR Identification of Left Homologous Arm: Target fragment size after recombination is 1304 bp



PCR Identification of Right Homologous Arm: Target fragment size after recombination is 1321 bp



Results

1. Modified sgRNA has better stability and higher efficiency in guiding homologous recombination compared to unmodified sgRNA which is prone to degradation.
2. Our 3' sgRNA modification is a built-in process in the template, no additional modification step.
3. sgRNA prepared by *in vitro* transcription has high production yield, low cost and no organic residue compared to chemically synthesized sgRNA.