Table 1: Direct comparison between nature Multipotent Stem Cell (nMS) and iPSC

Item	Parameters	KINGSTEMCELL =nMS	iPSC
1	Source of cell	Primary explant	Adult somatic cells
2	Ethical or legal issue	None	None
3	Immunogenic limitation	None	HLA matching required
4	Isolation-culture expansion, Growth condition	Biological programming of safe culture expansion. No feeder cell, Hypoxia growth condition	Reprogramming of genome Need feeder cell, Standard CO_2 Incubator
5	Addition of transcription factors	None	Yes, Oct4, Sox2, c-Myc, Klf4
6	Chemicals and enzymes used in isolation-creation	None	Yes
7	Life span	Well-controlled 60-80 generations with normal chromosome karyotype	Renew indefinitely; tumorgenicity concern
8	Differentiated cell types	nMS isolation from various cell types: Hematopoietic cells, osteoblasts, chondrocyte, neuron, cardiac cells, etc.	Differentiate into many different cell types; pancreatic-β cells, liver hepatocytes, cardiomyocytes, hematopoietic cells, and dopaminergic neurons
9	Targeted disease treatment	Almost every intractable disease, even at the end stage of colon cancer, prostate cancer, multiple myeloma	Safety concern abounds: Diabetes, leukemia, and Parkinson's disease, cancer therapy
10	Successful cell transplantation	Successfully treated thousands of patients with excellent efficacy, without noticeable side effect	Successfully in animal models of Parkinson's disease and liver cirrhosis respectively
11	New drug screening	New Drug Application	Yes, with reservations
12	Roadblock to clinical: Safety	No safety concern, reliable, reproducible	Safety concern: Immune rejection and compatibility
13	Validated differentiating SOP GMP-compliant cultural SOP	Followed cGMP Guidance: 21 CFR 210 & 211	Unknown
14	Epigenetic memory	No adverse impact	Evidence of adverse impact
15	Cost and Time for each treatment	Reasonable and affordable ($1x10^8$ cells/transplantation depending on disease status);	It is too expensive and time-consuming

		cost is reasonable even at high cumulative dose	
16	Targeted patient	Allogeneic, autogenetic	Autogenetic
17	Tumorigenicity	Genetic stability	Teratoma and tumors Mutation hot spot
18	Immunogenicity	Minor or non-significant	Immune rejection HLA Matching
19	Heterogeneity	Minor or in-significant	Genetic background, integrity, impact /defect in differentiation
20	Is there a psychological burden on patients and medical staff during cell transplantation?	No, safe, effective and reliable	Side effect, potential tumor formation
21	What is the rate of disease control after treatment?	~90%	Unknown
22	Safety, sterility, efficacy	Excellent based on results of treating thousands of patients	Unknown, severe adverse side effects
23	Finished product handling	Store at ambient temperature for up to one week	Unknown or ultra-low temperature storage