

Table S1. quality control checklist of hiPSCs culturing and relevant experiments.

Category	Test item	Acceptance criteria	Results
hiPSCs Qualification	Appearance of the frozen storage tube	Fully sealed frozen storage tube; No signs of leakage; Contents appear as white crystalline solids	Passed
	Cell viability	$\geq 90\%$	Passed
	Cell morphology	Growing as colony form with clear border, high nuclear-cytoplasmic ratio, uniform morphology, tight junction between cells	Passed
	Isoenzyme Analysis	Human cells without cross-contamination	Passed
	Karyotype analysis	46XX or 46XY	Passed
	Biomarkers	SSEA3 $\geq 70\%$	Passed
		SSEA4 $\geq 70\%$	Passed
		TRA-1-60 $\geq 70\%$	Passed
		TRA-1-81 $\geq 70\%$	Passed
Safety	Soft agar clone formation assay	Negative	Passed
	Detection of telomerase activity	Negative	Passed
	Testing for Tumorigenicity	Negative	Passed
	Testing for Oncogenicity	Negative	Passed
	Sterility test	Negative	Passed
	Bacterial endotoxin test	< 0.4 EU/mL	Passed
	Mycoplasma test	Negative	Passed
	Mycobacterium test	Negative	Passed
	Vero cell erythrocyte adsorption and blood coagulation test	Negative	Passed
	MRC-5 cell erythrocyte adsorption and blood coagulation test	Negative	Passed
	Erythrocyte adsorption and blood coagulation test	Negative	Passed
	Mouse intraperitoneal and intracerebral vaccination test	Negative	Passed
	Suckling mouse intraperitoneal and intracerebral vaccination test	Negative	Passed
	Guinea pigs intraperitoneal and intracerebral vaccination test	Negative	Passed
	5-6 days chicken embryo yolk sac vaccination test	Negative	Passed
	9-11 days chicken embryo allantoic vaccination test	Negative	Passed
	Erythrocyte adsorption test of 9-11 days chicken embryo allantoic fluid	Negative	Passed
	TP test	Negative	Passed
	EBV test	Negative	Passed
	HAdv test	Negative	Passed
	HBV test	Negative	Passed
	HAV test	Negative	Passed
	HCV test	Negative	Passed
	HCMV test	Negative	Passed
	HIV-I test	Negative	Passed
	HIV-II test	Negative	Passed
	HTLV- I test	Negative	Passed
	HTLV- II test	Negative	Passed
	B19 test	Negative	Passed
	HPV test	Negative	Passed
	HHV-6 test	Negative	Passed
	HHV-7 test	Negative	Passed
	HHV-8 test	Negative	Passed
	Retrovirus test	Negative	Passed