

Isolation and Identification of Porcine Bone Marrow Mesenchymal Stem Cells and their Derived Extracellular Vesicles

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Materials

Name	Company	Catalog Number	Comments
175 cm ² cell culture flask	Thermo Fisher	159910	used for cell culture
0.25% Trypsin/EDTA	Thermo Fisher	25200056	used to digest cells
Adipogenic Differentiation Kit for Bone Marrow Mesenchymal Stem Cell	OriCell	GUXMX-90031	used for adipogenic differentiation assay
Alix Monoclonal Antibody	Thermo Fisher	MA1-83977	used to identify extracellular vesicles(Evs) by western blotting
APC Mouse IgG1 kappa Isotype Control	Thermo Fisher	17-4714-42	used to eliminate the effects of non-specific staining in flow cytometry
CD105 (Endoglin) Monoclonal Antibody	Thermo Fisher	17-1057-42	used to identify pBM-MSCs by flow cytometry
CD14 Monoclonal Antibody	Thermo Fisher	MA1-82074	used to identify pBM-MSCs by flow cytometry
CD29/IGTB1 Monoclonal Antibody	Thermo Fisher	MA1-19458	used to identify pBM-MSCs by flow cytometry
CD45 Monoclonal Antibody	Thermo Fisher	MA5-28383	used to identify pBM-MSCs by flow cytometry
CD63 Monoclonal Antibody	Thermo Fisher	10628D	used to identify EVs by western blotting
CD81 Monoclonal Antibody	Thermo Fisher	MA5-13548	used to identify EVs by western blotting
CD90 Monoclonal Antibody	Thermo Fisher	A15794	used to identify pBM-MSCs by flow cytometry
Chondrogenic Differentiation Kit for Bone Marrow Mesenchymal Stem Cell	OriCell	GUXMX-90041	used for chondrogenic differentiation assay

Fetal Bovine Serum	Gibco	10099141C	used to prepare complete medium
FITC Mouse IgG1 kappa Isotype Control	Thermo Fisher	11-4714-42	used to eliminate the effects of non-specific staining in flow cytometry
Flow cytometry	BD	Accuri C6	used for identification of cell phenotype
FlowJo software	BD	V10	used to analyze data from flow cytometry
High-speed centrifuge tube (50 mL)	Beckman	357003	used for high-speed centrifugation
Iscove's Modified Dulbecco's Medium	Gibco	C12440500BT	used for cell culture
Low-temperature high-speed floor centrifuge	Avanti	J-26XPI	used for high-speed centrifugation to obtain clean conditioned medium
Nonyl phenoxypolyethoxyethanol (NP-40)	Sigma-Aldrich	NP40S	used for the composition of RIPA lysis buffer
Osteogenic Differentiation Kit for Bone Marrow Mesenchymal Stem Cell	OriCell	GUXMX-90021	used for osteogenic differentiation assay
PE Mouse IgG1 kappa Isotype Control	Thermo Fisher	12-4714-42	used to eliminate the effects of non-specific staining in flow cytometry
Percoll	Cytiva	17089102	used to isolate porcine bone marrow mesenchymal stem cells(pBM-MSCs)
Phenylmethanesulfonyl fluoride (PMSF)	Thermo Scientific	36978	used for the composition of RIPA lysis buffer
Phosphate Buffered Saline(10x)	Beyotime	ST476	used to prepare isotonic Percoll solution
Phosphate Buffered Saline(1x)	Cytiva	AF29561133	used to dilute Percoll and wash cells
Protease inhibitor (1x)	Thermo Scientific	A32955	used for the composition of RIPA lysis buffer
sodium chloride	Sigma-Aldrich	S9888	used for the composition of RIPA lysis buffer
sodium deoxycholate	Sigma-Aldrich	D6750	used for the composition of RIPA lysis buffer
sodium dodecyl sulfate (SDS)	Sigma-Aldrich	L3771	used for the composition of RIPA lysis buffer
Transmission electron microscopy	Hitachi	HT7700	used for electron microscopy imaging
Tris·HCl	Sigma-Aldrich	93363	used for the composition of RIPA lysis buffer
TSG101 Monoclonal Antibody	Thermo Fisher	MA1-23296	used to identify EVs by western blotting
Ultracentrifuge (Type 50.2 Ti Rotor)	Beckman	optima L-100XP	used for ultracentrifugation to isolate exosomes
Ultracentrifuge tube (26.3 mL)	Beckman	355654	used for ultracentrifugation
ZetaVIEW	Particle Metrix	S/N 17-310	used for Nanoparticle Tracking Analysis