Table S1. Studies identification.

Year	Title	Journal	Country	Author
2016	Hijacking the cellular mail: exosome mediated differentiation of mesenchymal stem cells	Stem Cells International	USA	[37]
2017	Exosomes secreted from mutant-HIF-1α-modified bone-marrow-derived mesenchymal stem cells attenuate early steroid-induced avascular necrosis of femoral head in rabbit	Cell Biology International	China	[28]
2018	Tissue-engineered bone immobilized with human adipose stem cells-derived exosomes promotes bone regeneration	ACS Applied Materials & Interfaces	China/The Netherlands	[29]
2018	Mesenchymal stem cell-derived exosomes have altered microRNA profiles and induce osteogenic differentiation depending on the stage of differentiation	Plos One	Sweden	[36]
2018	Dexamethasone-Activated MSCs Release MVs for Stimulating Osteogenic Response	Stem Cells International	China	[30]
2019	Exosomes derived from miR-375-overexpressing human adipose mesenchymal stem cells promote bone regeneration	Cell Proliferation	China	[38]
2019	Dimethyloxaloylglycine-stimulated human bone marrow mesenchymal stem cell-derived exosomes enhance bone regeneration through angiogenesis by targeting the AKT/mTOR pathway	Stem Cell Research and Therapy	China	[20]
2019	Immunoregulatory role of exosomes derived from differentiating mesenchymal stromal cells on inflammation and osteogenesis	Journal of Tissue Engineering and Regenerative Medicine	Australia/ China	[35]
2019	Promoting osteogenic differentiation of human adipose-derived stem cells by altering the expression of exosomal miRNA	Stem Cells International	China	[34]
2020	Functionally engineered extracellular vesicles improve bone regeneration	Acta Biomaterialia	USA	[21]
2020	Human periodontal ligament stem cell-derived exosomes promote bone regeneration by altering microRNA profiles	Stem Cells International	China	[33]

2020	Hypoxic mesenchymal stem cell-derived exosomes promote bone fracture healing by the transfer of miR-126	Acta Biomaterialia	China	[17]
2020	Comparison study of stem cell-derived extracellular vesicles for enhanced osteogenic differentiation	Tissue Engineering: Part A	USA/Iran	[32]
2020	Exosomal circlPAR1 promoted osteogenic differentiation of homotypic dental pulp stem cells by competitively binding to hsa-miR-31	BioMed Research International	China/ Thailand	[31]
2020	BMSC-exosomes carry mutant HIF-1a for improving angiogenesis and osteogenesis in critical-sized calvarial defects	Frontiers in Bioengineering and Biotechnology	China	[18]
2020	Three-dimensional mechanical microenvironment enhanced osteogenic activity of mesenchymal stem cells-derived exosomes	Chemical Engineering Journal	China	[39]
2020	Human mesenchymal stem cell-derived exosomes enhance cell-free bone regeneration by altering their miRNAs profiles	Advanced Science	USA/China	[40]
2021	Bone marrow stromal cells stimulated by strontium-substituted calcium silicate ceramics: release of exosomal miR-146a regulates osteogenesis and angiogenesis	Acta Biomaterialia	China	[41]

USA, United States of America; HIF, hypoxia-inducible factor; MSCs, mesenchymal stem cells; miRNA, microRNA; BMSC, bone marrow mesenchymal stem cells.