LIST OF ABBREVIATIONS

ASC-2-P = Ascorbic acid 2-phosphate

BSA = Bovine serum albumin

cDNA = Complementary DNA

CFDA-SE = Carboxyfluorescein diacetate succinimidyl ester

CFU = Colony forming unit assay

CRD = Completely Randomized Design

DAPI = 6-diamino-2-phenylindole

DMSO = Dimethyl sulfoxide

DTT = Dithiothreitol

ECM = Extracellular matrix

FBS = Fetal bovine serum

H&E = Hematoxylin and eosin

HA = Hyaluronic acid

HRP = Horseradish peroxidase

hWJ-MSCs = Human Wharton's jelly-derived mesenchymal stem cells

IBMX = Isobutyl methylxanthine

ICC = Immunofluorescence staining

ITS-X = Insulin-Transferrin-Selenium-Ethanolamine

MSCs = Mesenchymal stem cells

OA = Spontaneous osteoarthritis

OCT = Optimal cutting temperature compound

PDT = Population doubling time

PFA = Paraformaldehyde

PVDF = polyvinylidene difluoride

qPCR = Quantitative polymerase chain reaction

SDS-PAGE = Sodium dodecyl-sulfate polyacrylamide gel electrophoresis

LIST OF ABBREVIATIONS (Continued)

TBS = Tris-buffered saline

TBST = Tris-buffered saline with 0.1% Tween 20

TGF- β 3 = Transforming growth factor beta 3

 α -MEM = Alpha modification of Eagle's medium