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A.

Mesenchymal Stem Cells (MSCs)



Grown in 2D monolayer
Expand for ~3 days

Switch to the following Chondrocyte
differentiation media (CDMs):

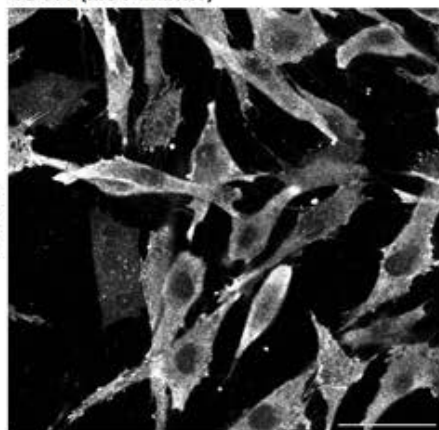
CDM1 - STD (industry standard protocols)
CDM2 - STD + Avn C (100nM)
CDM3 - STD + 5 X CS (500µg/ml)
CDM4 - STD + Avn C + 5 X CS



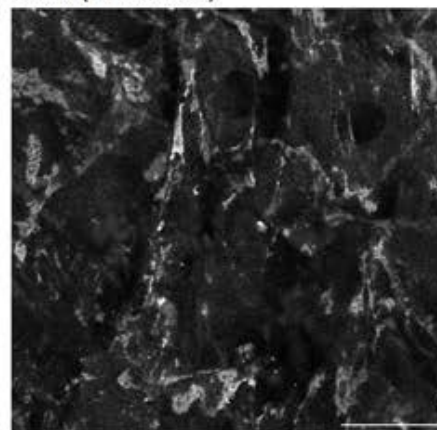
Chondrocyte
differentiation for
21 days

Chondrocyte-like Cells

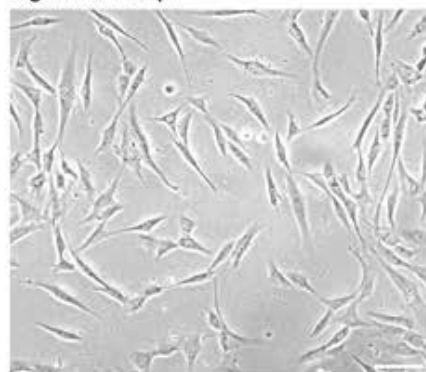
B. Day 0 of Chondrocyte differentiation:
CD166 (MSC Marker)



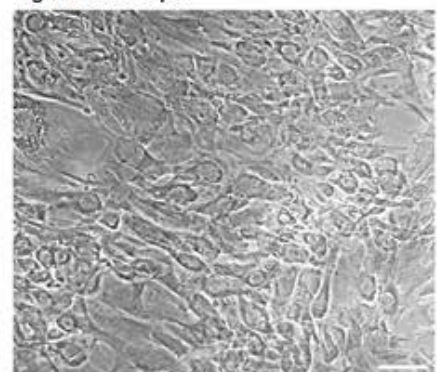
Day 21 of Chondrocyte differentiation (STD):
CD166 (MSC Marker)



C. Day 0 of Chondrocyte differentiation:
Light microscope



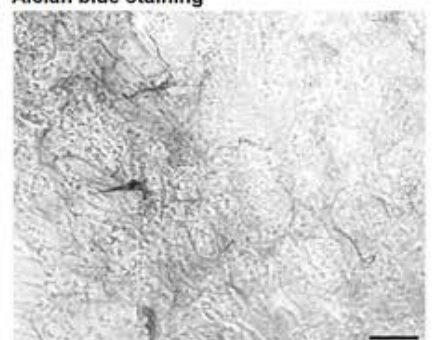
Day 21 of Chondrocyte differentiation (STD):
Light microscope



Day 0 of Chondrocyte differentiation:
Alcian blue staining

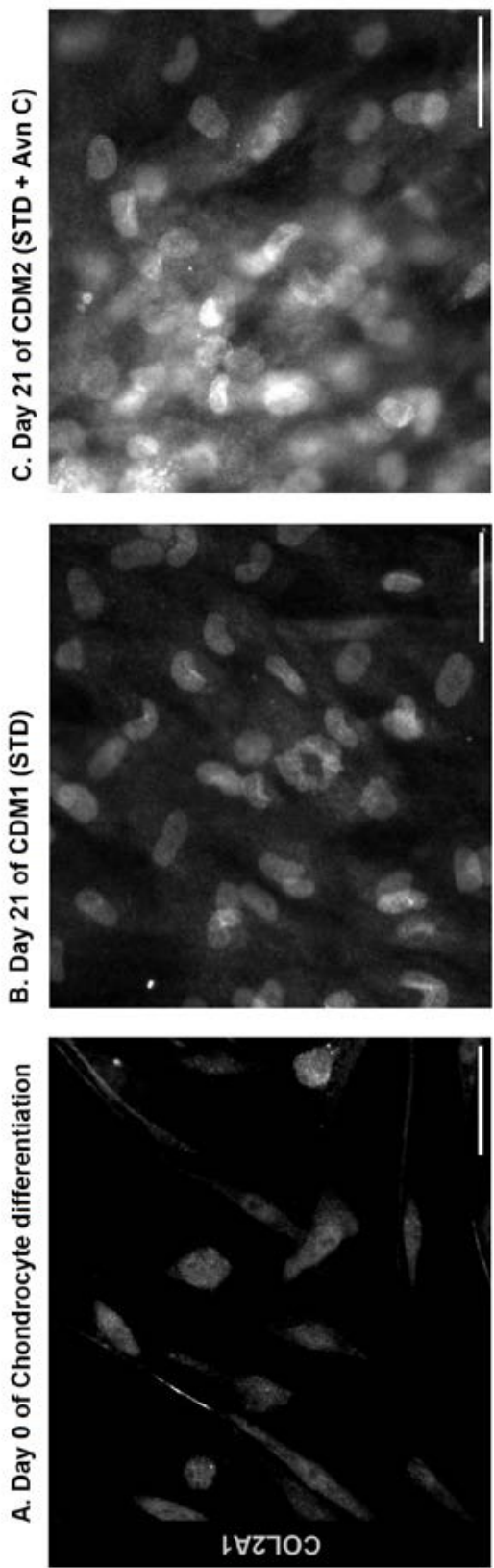


Day 21 of Chondrocyte differentiation (STD):
Alcian blue staining



Alcian Blue

FIG. 1A-1C



D. COL2A1 Protein Expression

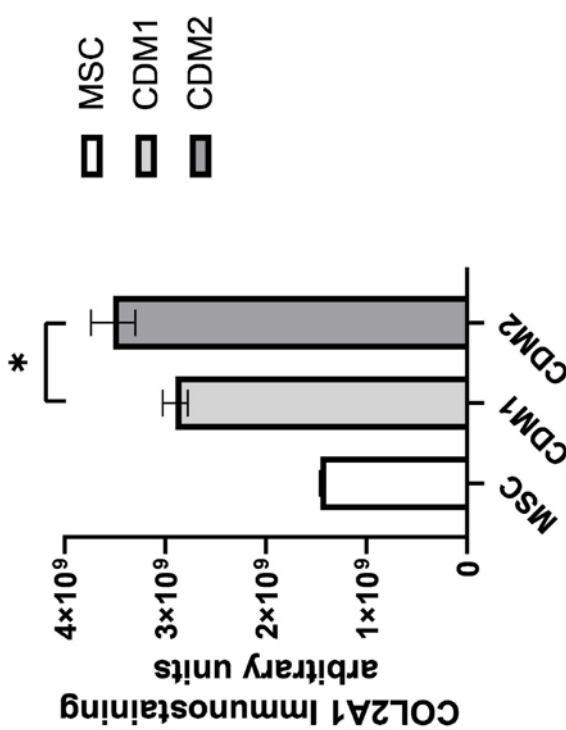


FIG. 2A-2D

200

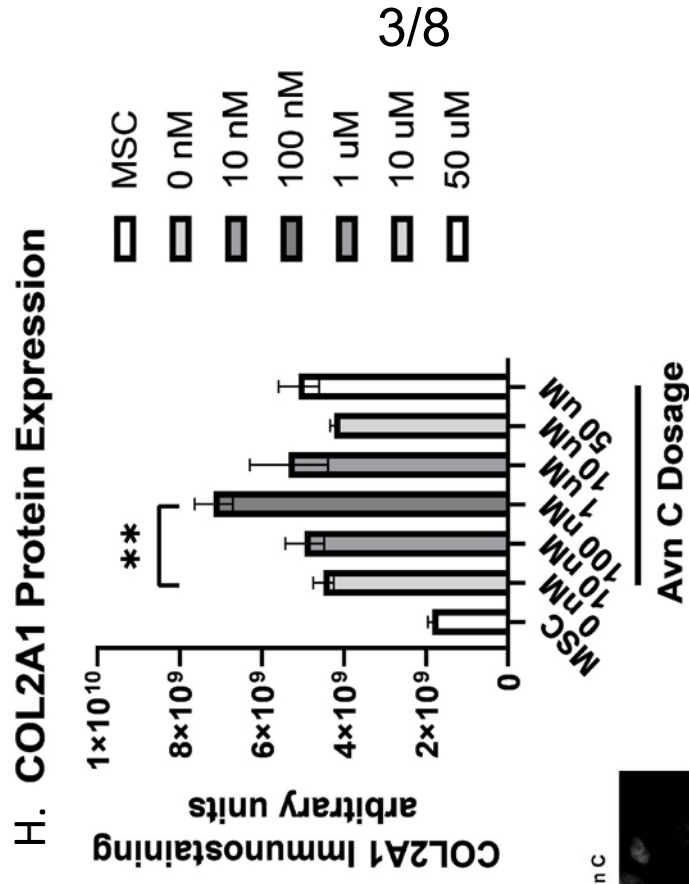
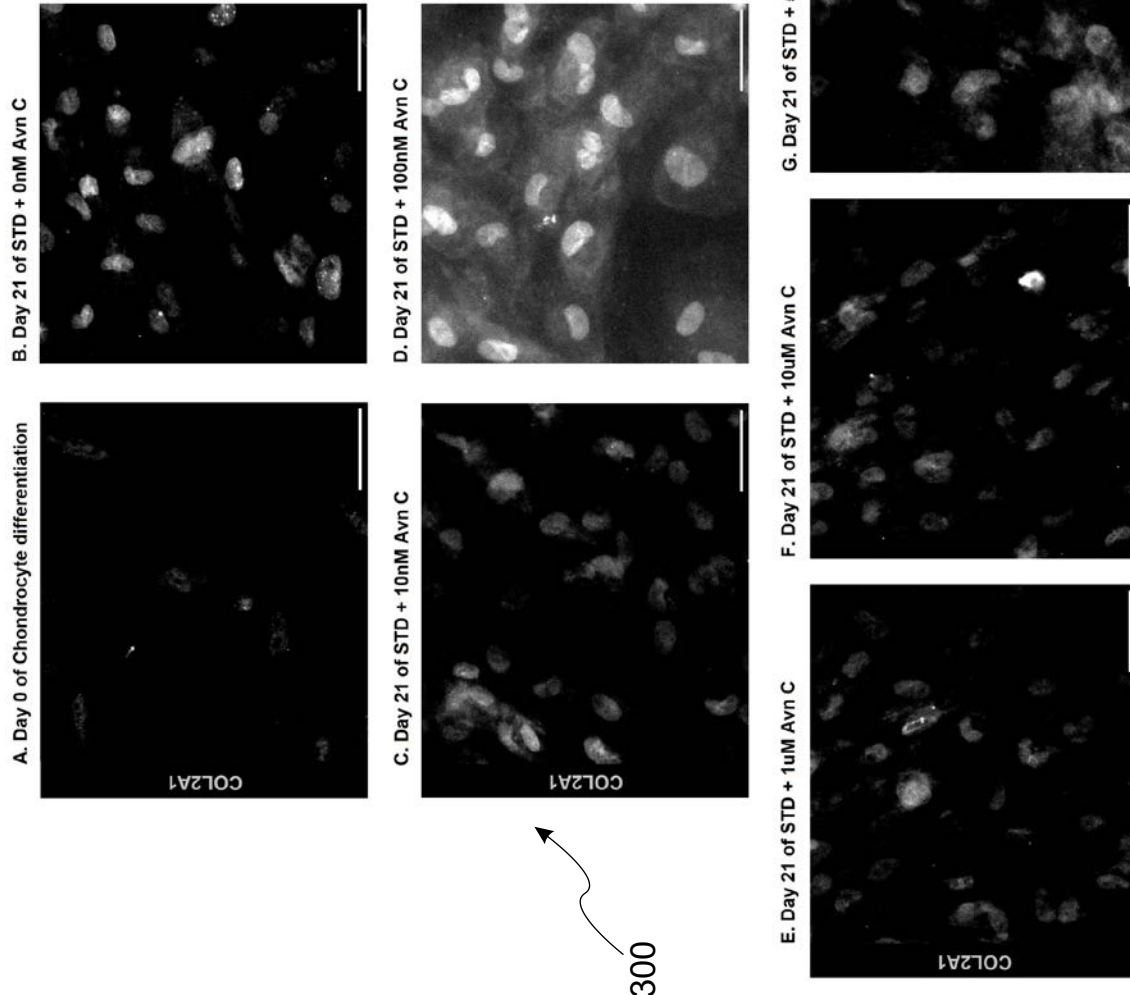
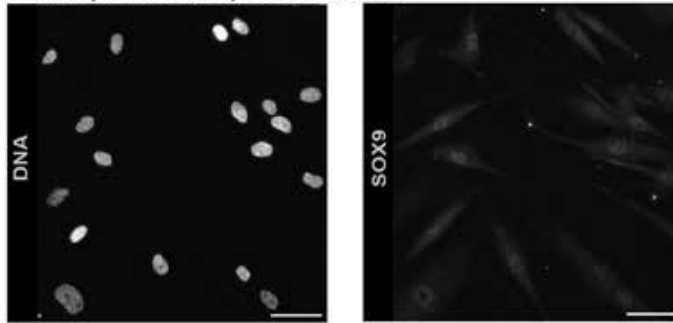


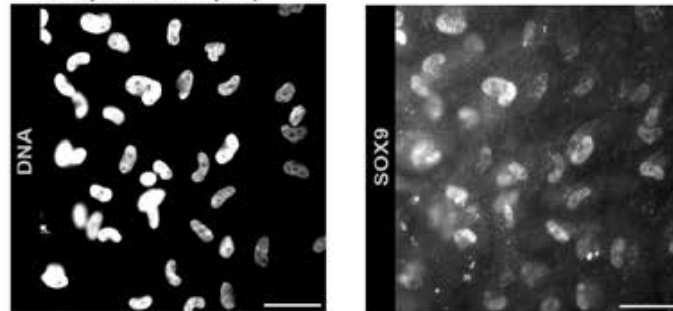
FIG. 3A-3H

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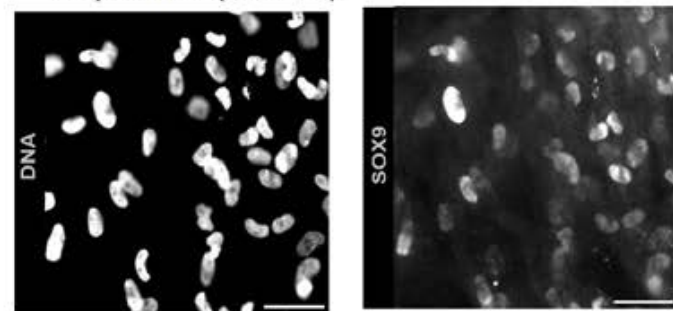
A. Day 0 of Chondrocyte Differentiation



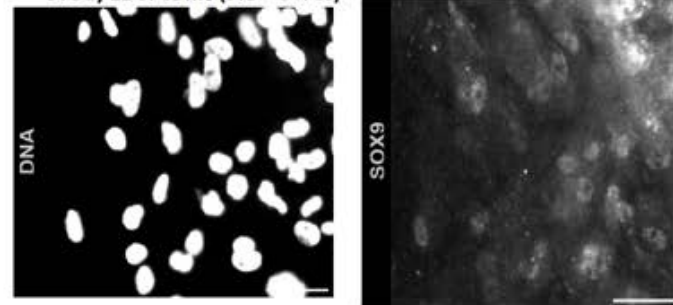
B. Day 21 of CMD1 (STD)



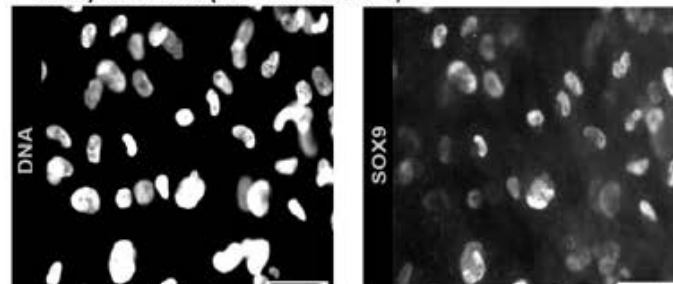
C. Day 21 of CDM2 (STD + Avn C)



D. Day 21 of CDM3 (STD + 5 X CS)



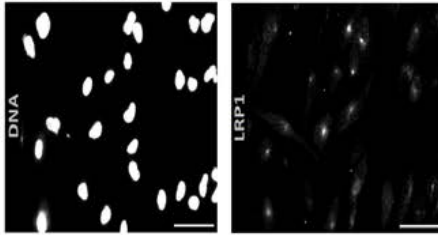
E. Day 21 of CDM4 (STD + Avn C + 5 X CS)



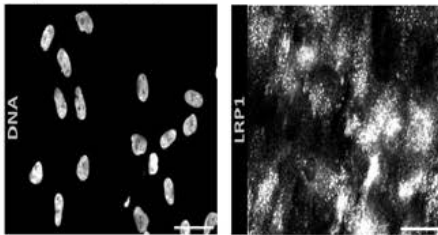
400

FIG. 4A-4E

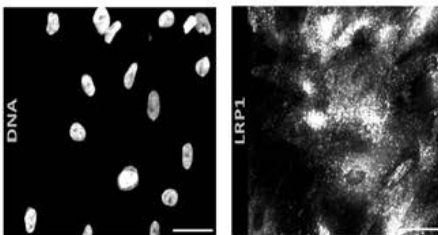
A. Day 0 of Chondrocyte Differentiation



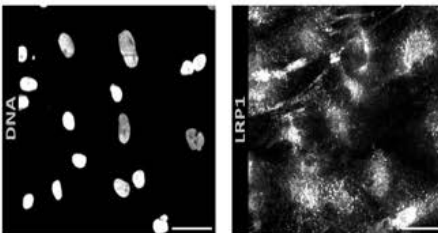
B. Day 21 of CDM1 (STD)



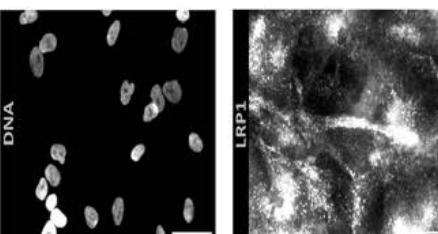
C. Day 21 of CDM2 (STD + Avn C)



D. Day 21 of CDM3 (STD + 5 X CS)



E. Day 21 of CDM4 (STD + Avn C + 5 X CS)



F. LRP1 Protein Expression

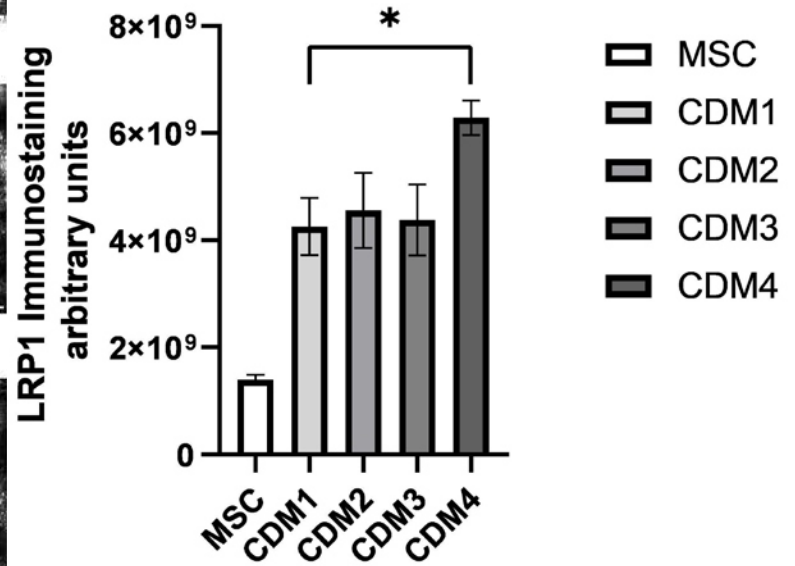
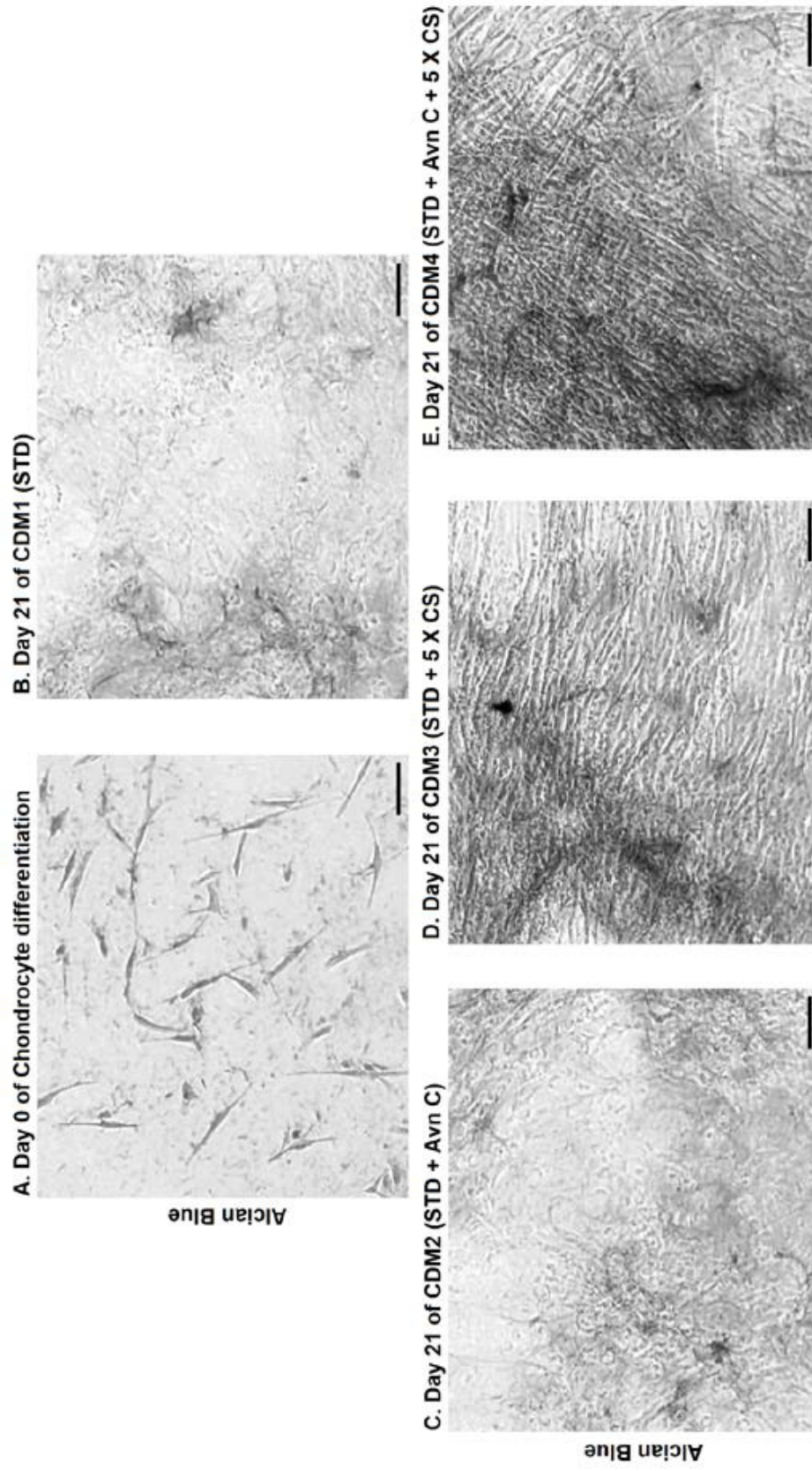


FIG. 5A-5F



FIGS. 6

600

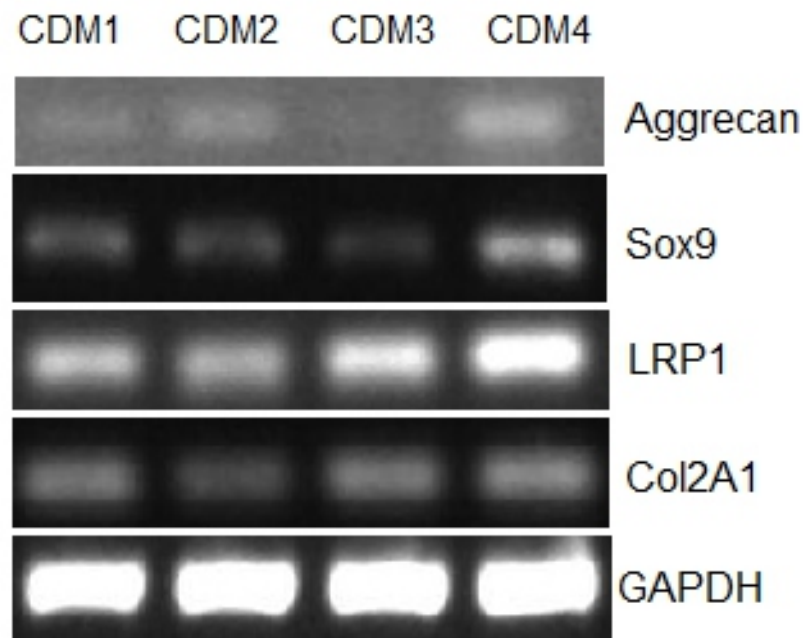
700


FIG. 7

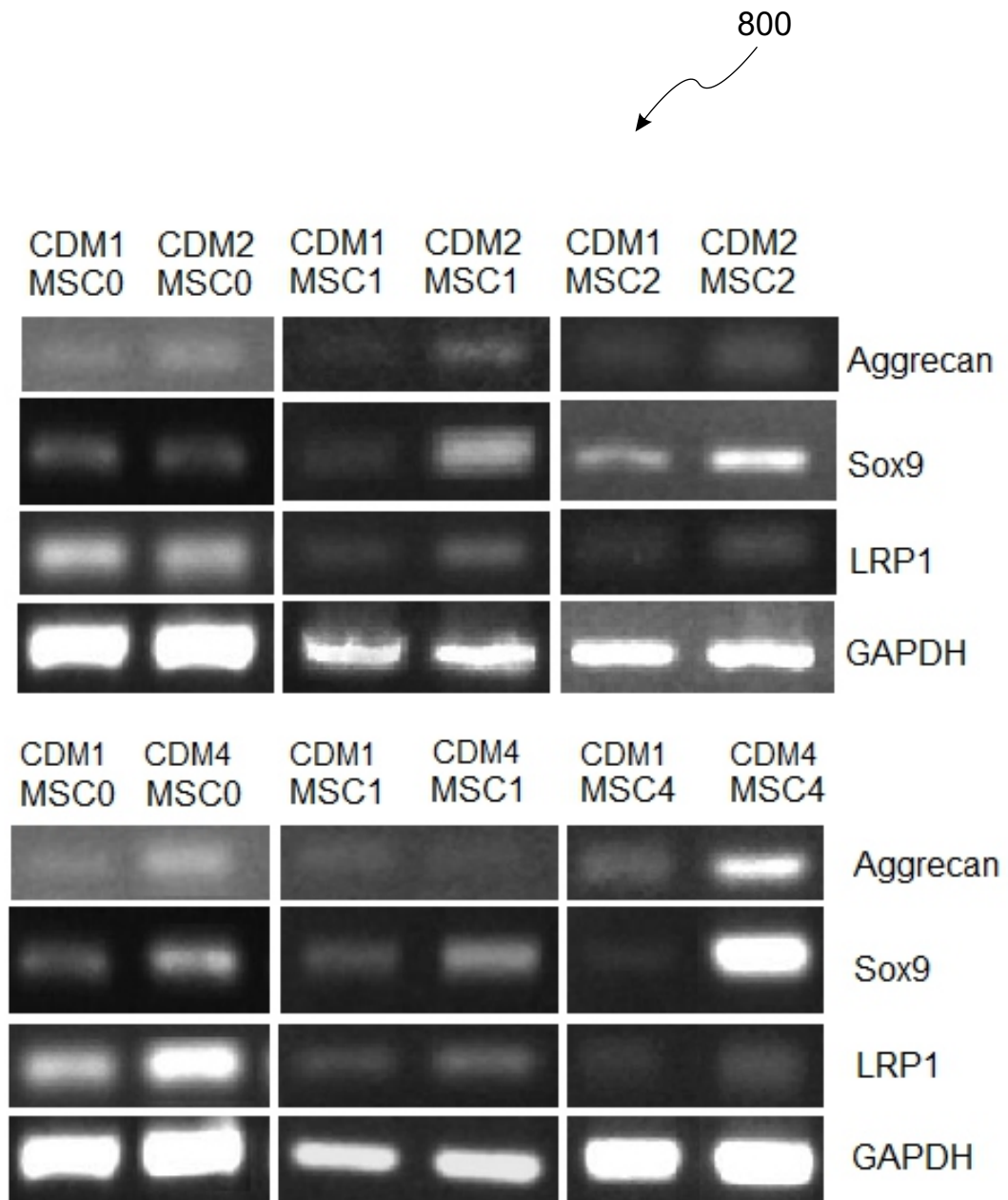


FIG. 8