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Systematic microcarrier screening and agitated culture conditions improves human mesenchymal stem cell yield in bioreactors

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Supporting information

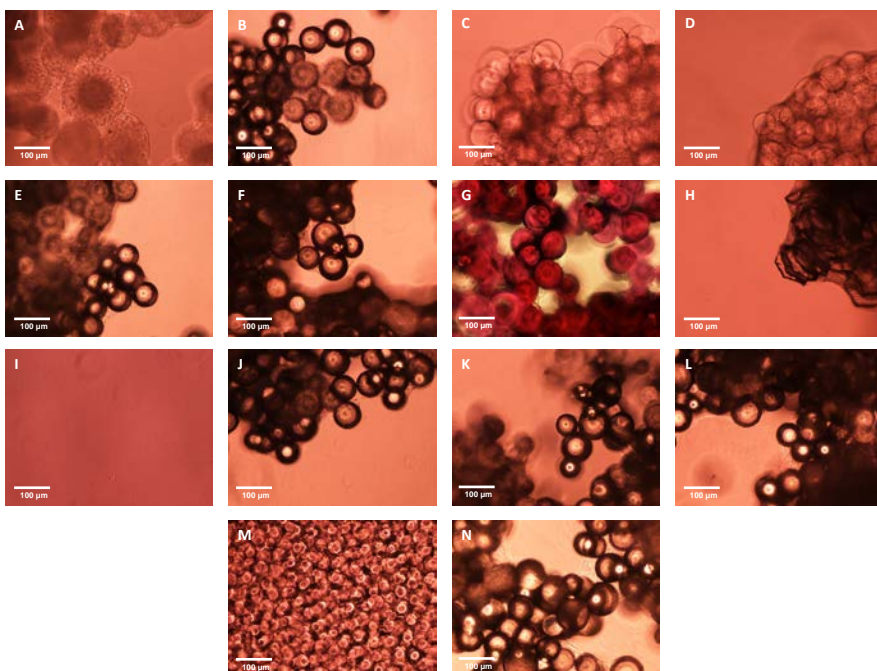
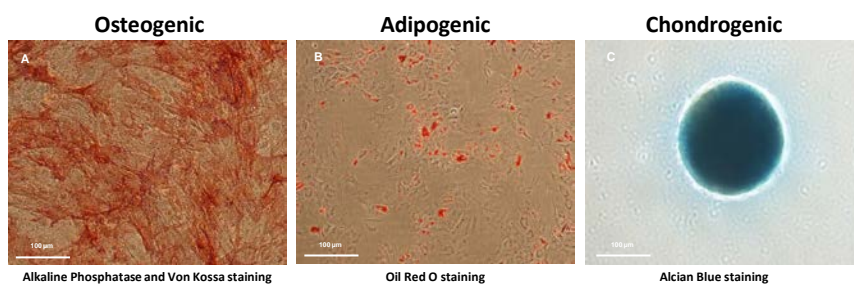


Figure S1: Phase contrast images of hBM-MSC1 donor cells attached to the different microcarriers in static microwell plates after 144 h. (A) Cultispher-G® (CG), (B) Collagen (Coll), (C) Cytodex-1™ (Cyto1), (D) Cytodex-3™ (Cyto3), (E) Enhanced Attachment (EA), (F) FACT, (G) Hillex®, (H) MicroHex™ (Mhex), (I) No microcarrier – control condition (No MC), (J) Plastic (Plas), (K) Plastic Plus (Pplus), (L) Pro-Nectin® F (Pro-F), (M) PVA, (N) Synthemax II® (Sy).



D	Pre-inoculation (Day 0)	Post-harvest (Day 6)
CD73 (+ve)	98.9 ± 0.10	99.4 ± 0.15
CD90 (+ve)	99.9 ± 0.00	99.9 ± 0.00
CD105 (+ve)	99.3 ± 0.30	99.6 ± 0.05
CD29 (+ve)	98.3 ± 0.20	98.7 ± 0.05
CD14 (-ve)	0.39 ± 0.02	0.65 ± 0.08
CD19 (-ve)	0.77 ± 0.05	0.73 ± 0.11
CD34 (-ve)	0.22 ± 0.02	0.29 ± 0.00
CD45 (-ve)	0.83 ± 0.03	0.66 ± 0.15
HLA-DR (-ve)	0.67 ± 0.11	1.21 ± 0.09

Figure S2: Cell characterisation data for hBM-MSC1 harvested from the Plastic microcarriers after spinner flask culture. Demonstration of differentiation towards osteogenic (A), adipogenic (B) and chondrogenic (C) lineages. Expression of positive cell (CD73, CD90, CD105 and CD29) and negative (CD14, CD19, CD34, CD45 and HLA-DR) surface markers (D). Data is presented as mean ± SD (n=4).