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Cells Isolated from Human Bone Marrow, Plays a Key Role in Osteosarcoma Growth

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ABSTRACT In the current study, the researchers cultured the hBMSCs in α -DMEM supplemented with foetal bovine serum. After an incubation period of 48 hours the exosome-containing cell culture supernatants were collected and subjected to PEG-based vesicle enrichment for purification. The enriched exosomes derived from hBMSCs, with or without miR-6087, were used to treat osteosarcoma (U2OS) cells. The cell viability was tested using Transwell invasion assay, CCK-8 test and scratch migration assay. The Western blotting and RT-PCR were employed to determine the levels of HSP70/ALIX and miR-6087 in the exosomes. The HBMSC derived exosomes exhibited significant impact on the growth of U2OS cells. The growth of tumour cells was notably inhibited when miR-6087 in exosomes was suppressed. This study marks the initial instance where the researchers successfully showcased the ability of exosome derivatives from hBMSCs to prevent the U2OS cells proliferation, through the modulation of miRNA-6087. The findings present a novel perspective on the involvement of hBMSCs in tumour advancement.