cultured in monolayer during 7 days using cell culture inserts. Expression of collagens (Col) I, IIB, III, X, aggregan (Agg), link, Sox9, MMP13, alkaline phosphatase (AP) was quantified by RT-qPCR. Secreted factors were quantified by ELISA. Isotypic or anti-HGF antibodies (100 ng/ml) were added during the coculture.

**Results** After 7 days of chondrocyte and abdo-ASC co-cultures, a stable expression of the markers specific for mature chondrocytes (Col IIB, Agg, link, Sox9) was observed, while expression of hypertrophic (MMP13, AP) and fibrotic (Col I and III) markers was significantly decreased. Compared to abdo-ASCs, Hoffa- and Hip-ASC reduced less efficiently the expression of hypertrophic/fibrotic markers and some markers of mature chondrocytes were decreased with Hip-ASC. OA MSC behaved as abdo-ASC maintaining a stable expression of chondrocyte markers and reducing hypertrophic/fibrotic markers (MMP13, Col I and III). Finally, factors known to be involved in fibrosis and matrix remodelling (HGF, TIMP-1 and -2, MMP-1 and -9, IL1-RA) were quantified in culture supernatants. The authors observed that HGF was not secreted by chondrocytes or ASC alone but its secretion was induced after co-culture. Importantly, addition of neutralising anti-HGF antibody reversed the antifibrotic effect of ASC whereas the hypertrophic markers were not modulated confirming the role of HGF on the inhibition of fibrosis.

**Conclusions** SC from abdominal subcutaneous fat and MSC were the most efficient to reduce hypertrophy and dedifferentiation of articular chondrocytes. This effect was at least partly due to the induction of HGF secretion which is a known antifibrotic factor confirming the interest of using ASC in therapies of osteo-articular diseases.

## 13 ANTIFIBROTIC EFFECT OF ADIPOSE STROMALCELLS ON CHONDROCYTES FROM OSTEOARTHRITIC PATIENTS

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**Purposes** Osteoarthritis (OA) characterised by degeneration of articular cartilage is the most frequent rheumatic disease. Mesenchymal stem cells (MSC) isolated from bone marrow (MSC) or adipose tissues (ASC) secrete a large amount of factors with immunomodulatory, proliferative, antifibrotic or antiapoptotic properties. The possibility that these cells, through their trophic potential, may influence the course of chronic degenerative disorders and prevent cartilage degradation is promising for the treatment of OA. Indeed, the aim of our work was to evaluate the effects of ASC or MSC on OA chondrocyte phenotype.

**Methods** OA ASC were isolated from intra-articular (Hoffa-ASC) or hip (hip ASC) subcutaneous adipose tissue and healthy ASC from subcutaneous abdominal depot (abdo-ASC). BM-MSC and chondrocytes were obtained from OA donors. ASC or MSC were co-incubated with chondrocytes