

P007 Chondroadherin interactions

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Chondroadherin is a leucine-rich, cartilage matrix protein known to mediate adhesion of isolated cells via the integrin $\alpha_2\beta_1$. In most cases an interaction between the matrix constituents and an integrin results in signals leading to cell spreading, migration and/or division. In contrast, when chondroadherin binds via the $\alpha_2\beta_1$ integrin, the cells do not spread but retain their rounded shape and maintain their production of matrix constituents. Thus, this interaction may have a central role in maintaining the adult chondrocyte phenotype, important in cartilage extracellular matrix homeostasis.

We identified a chondroadherin peptide able to inhibit the adhesion to intact protein in a dose dependent manner. Cells adhering to the peptide remains round as is observed upon adherence to intact protein and adhesion were blocked in the presence of the peptide. The peptide prevented spreading and induced cells to form aggregates when added to cells cultured on chondroadherin. In the same type of assay, the addition of antibodies blocking the β_1 integrin showed similar results on cell adhesion, anti β_1 antibody prevented spreading and the cells formed aggregate while addition of EDTA lead to cells detaching.