Background

Fibulin-3 is a member of the fibulin family protein, newly recognized as extracellular matrix protein that negatively regulates chondrocyte differentiation. Using proteomic analysis, we have found elevated levels of two fragments of fibulin-3 (Fib3-1 and Fib3-2) in the urine of osteoarthritic (OA) patients compared to those of healthy or osteoporotic subjects.

Objectives

The aim of this study was to measure Fib3-1 and Fib3-2 in serum of healthy subjects and OA patients.

Methods

Specific immunoassays were developed using two rabbit antisera with high specificity for Fib3-1 and Fib3-2 respectively. ELISAs were validated in serum population collected from healthy subjects and patients with knee OA. Antisera did not recognize native fibulin-3 and did not cross-react with each fragment. Immunohistochemistry analysis was performed on articular cartilage from tibial plateaus.

Conclusion

By comparison with healthy subjects, Fib3-1 and Fib3-2 serum levels are found elevated in patients with knee OA. Furthermore, the immunohistochemical findings indicate that fibrillated cartilage is a major source of fibulin-3 fragments.