

Diagnosis of osteoarthritis

Thrombospondin-4 autoantibodies for the diagnosis of osteoarthritis

Invention

Osteoarthritis (OA) is the most common degenerative disease of joints world-wide. About two-third of people over 65 years are affected, whereas the etiology is largely unclear. Currently, there is no causative therapy available, which is due to the complex pathomechanisms of arthrosis and also due to the lack of diagnostic biomarkers that allow monitoring of therapeutic success of drug candidates. Researchers of the University of Cologne have found that autoantibodies against the cartilage protein thrombospondin 4 (TSP-4) occur in the course of arthrosis. Rheumatoid arthritis is characterized by the presence of autoantibodies, but autoantibodies against TSP-4 have jet not been described for arthrosis. In addition to TSP-4, the researchers have found autoantibodies against the cartilage oligomeric matrix protein (COMP) and the C-type lectin domain family 3 member A (CLEC3A) in the course of OA, which may be used in a combined test together with TSP-4 in order to strengthen significance of diagnosis (Table 1).

	OA		HD		p-value
	N/total	95% CI	N/total	95% CI	
TSP-4	5/10	2-8	0/10	0-3	0,033
T4/CP	8/10	4-10	1/10	0-5	0,005
T4/CP/C3	9/10	6-10	1/10	0-5	0,001

Table 1: Analysis of serum antibodies against TSP-4, COMP, and CLEC3A. OA, OA patient group; HD, healthy donor group. N/total: number of positive tested persons. CI: confidence interval. T4, TSP-4; CP, COMP; C3, CLEC3A

The present invention is the first serum biomarker test that helps to support the clinical diagnosis of OA and furthermore may provide a tool that allows the monitoring of therapeutic success of drug candidates for the treatment of arthrosis.

Commercial Opportunities

The invention is offered for licensing and further development as diagnostic test.

Current Status

In case of interest we are pleased to inform you about the patent status.

An invention of the University Hospital Cologne.

Competitive Advantages

- First biomarker of osteoarthritis

Technology Readiness Level

123456789

Technology validated in lab

Industries

- Diagnostics Industry

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