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[J Rheumatol](#). 2001 Jul;28(7):1492-5.

## Autoantibodies to osteopontin in patients with osteoarthritis and rheumatoid arthritis.

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### Abstract

**OBJECTIVE:** Osteopontin (OPN),  eted mainly from chondrocytes, is suggested to be involved in the ossification and remodeling of bone and also in regulation of cytokine profiles. We investigated whether patients with osteoarthritis (OA) and rheumatoid arthritis (RA) display autoimmunity against OPN.

**METHODS:** Recombinant human OPN (rhOPN) was prepared as a fusion protein with beta-galactosidase using *E. coli*. Serum samples from patients with OA or RA and from age matched healthy donors were tested for autoantibodies to rhOPN using ELISA and Western blotting. Reactivity of the same samples to purified native human OPN (nhOPN) was investigated by ELISA separately, to evaluate conformational epitopes.

**RESULTS:** By ELISA, autoantibodies to rhOPN were found in one (0.95%) of 105 patients with OA and 2 (2.3%) of 88 patients with RA. These autoantibodies to rhOPN were confirmed by Western blotting. In contrast, 11 (9.5%) of 105 OA serum and 13 (15%) of 88 RA serum samples reacted to nhOPN. The anti-OPN positive RA patients showed high serum levels of rheumatoid factor and C-reactive protein and accelerated erythrocyte sedimentation rate compared to the anti-OPN negative group, although the differences did not achieve statistical significance.

**CONCLUSION:** Our data showed that OPN is one of the autoantigens in OA and RA. Preferential recognition of nhOPN to rhOPN indicates that major epitope(s) of OPN would be conformational. Clinically, existence of the anti-OPN antibodies may be linked to disease severity in RA.

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