

OSTEOPONTIN TRIGGERS HUMORAL IMMUNE RESPONSE IN PROSTATE CANCER PATIENTS.

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Osteopontin (OPN) is a protein highly expressed in prostate cancer (PC) tissues and contributes to the progression of this disease. In the present work we aimed to evaluate if autoantibodies against OPN could also be a biomarker for PC. Recombinant human OPN (rhOPN) was prepared as a fusion protein with glutathione S-transferase (GST) using *E. coli*. Serum samples from biopsy-proven PC patients (29), benign prostatic hyperplasia (BPH) (19) and control healthy donors (HD) (30) were tested by western blot analysis. Autoantibodies to rhOPN were found in 62 %, 32% and 10% of PC, BPH and HD serum samples, respectively. Sensitivity and specificity of the immune response to OPN to detect PC were 62% and 90%, respectively. Positive serum samples stained to rhOPN but not GST, confirming specificity of the anti-rhOPN reactivity. None of the serum samples from patients with other neoplastic diseases tested presented autoantibodies against rhOPN. According to current knowledge, this is the first description of OPN as a tumor associated antigen. Higher levels of autoantibodies against OPN were detected in PC serum samples as compared to BPH and HD reactivities. In conclusion, these data showed that OPN is one of the autoantigens with high immunogenicity in PC and hence could be included in a multiplex of tumor antigens in order to perform antibody profiling in this disease.