SCREENING OF PROSTATIC CANCER BY RIA FOR PROSTATIC ACID PHOSPHATASE. M. Miki, T. Machida, Y. Ohishi, M. Ueda, A. Kido, M. Yanagisawa, H. Yamazaki and N. Kondo. Department of Urology, Jikei University School of Medicine, Tokyo.

A double antibody RIA for human prostatic acid phosphatase (PAP) was developed. Serum samples from 24 male and 11 female controls, 122 patients with prostatic cancer (28 untreated and 94 treated), 267 benign prostatic hyperplasia, 23 with prostatitis, 83 other cancers and 126 with other diseases were studied by the RIA. The normal upper limit of the serum PAP level in the assay was set at 3.0 ng/ml by the value of mean±2SD of controls. An elevated serum PAP was found in 82.1% of untreated prostatic cancer patients, but in 16.0% of treated patients. Sera from untreated patients with prostatic cancer gave positive results in 3/7 of stage A, 4/4 of stage B, 6/7 of stage C and 10/10 of stage D. The highest value of them was 4260 ng/ml in a case of stage D and all cases with the serum PAP level exceeded 100 ng/ml were stage D prostatic cancers. While in 267 patients with benign prostatic hyperplasia, 34 cases (12.7%) had elevated serum PAP levels and the highest value of them was 6.6 ng/ml.

In contrast to the enzyme assay, the RIA was more efficient and distinguished for the detection of prostatic cancer.