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CLINICAL STUDIES OF DINABOT (NEN) RADIOIMMUNOASSAY FOR PROSTATIC ACID PHOSPHATASE.
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Serum prostatic acid phosphatase (PAP) was mesured by RIA using New England Nuclear kit. Serum samples from 13 male and 6 female healthy volunteers, 36 patients with prostatic cancer (10 untreated and 26 treated), 44 with benign prostatic hyperplasia and 33 with other diseases were studied.

The measurement of the known doses revealed the excellent recovery rate and dilution rate. The withinassay variation ranged from 3.0 to 6.0% (C.V.) and betweenassay variation from 3.8 to 5.3% (C.V.) . The normal upper limit of serum PAP levels in this assay was set at 3.3 ng/ml. An elevated serum PAP was found in 70.0% of untreated prostatic cancer (100% of stage C and D) but only 2.3% of benign prostatic hyperplasia. The highest value of them was 1272 ng/ml in a case of stage D prostatic cancer. The data using this kit were well correlated with those of other kits.

The results showed that this kit was reliable and beneficial in diagnosing and following up prostatic cancer.

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CLINICAL EVALUATION OF ELASTASE 1 RIA KIT.
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Elastase 1 which is excreted from pancreas is measured with radioimmunoassay method, using Dinabot RIA kit.
Various pancreatic diseases are examined; pancreatitis, pancreas cancer, choledochobilliary diseases and chronic pancreatitis with pseudocyst.
The serum Elastase 1 value is distributed from less than 100 ng/dl to more than 500 ng/dl. The normal limit of benign pancreas diseases are less than 500 ng/dl of 95% significance rate. The high values are usually demonstrated in case of pancreas head cancer, and the relatively low values are encountered in cases of whole body, midbody and tail cancer of pancreas. There are very few false positive cases in the malignant pancreas diseases. The serum CEA value and the serum Tripsin value of RIA kit are also examined simultaneously.
The Elastase 1 value always showed higher value than CEA and Tripsin. And combination use of these three serum values examination is considered as one of the usefull tumor markers to detect the pancreas malignant diseases.

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DETERMINATION OF SERUM PREGNANCY-ASSOCIATED α_2-GLYCOPROTEIN (SP_3) BY RADIOIMMUNOASSAY.
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Recently pregnant-associated protein has attracted attention in the point of its relation with malignant tumor. We developed radioimmunoassay to determine serum pregnancy-associated α_2-glycoprotein(SP_3) using the double antibody method. The determined value was accurate and reproducible. Serum Sp_3 level in normal male was below 1.5mg/dl(n=20), in normal female was below 2.8mg/dl(n=19). Increased level in serum SP_3 levels were observed after 3-4th month of pregnancy with gradually increase until 8th month. After 1 month of delivary, serum SP_3 level dramatically decreased. In 56.8% of patients with various cancer(n=81) (stomach, colon, lung and breast) serum SP_3 levels were over 2.8mg/dl. Especially 2 patients treated estrogen for their prostate cancer had high serum SP_3 levels. Serum SP_3 levels in cancer patients increased with the progression of their tumor, but there was no relation between SP_3 and CEA level. Determination of serum SP_3 by radioimmunoassay is available for detecting of malignant tumor and tumor progression.

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CHANGES OF PROSTAGLANDIN E LEVEL FOLLOWING FORMATION OF METASTASIS.
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In order to clarify the role of Prostaglandin E (PGE) in the development of bone metastasis, our previous study reported correlative changes of PGE levels with bone- and bone marrow scintigraphy following formation of processes of bone metastasis on VX-2 rabbits. This study was undertaken to elucidate changes of PGE when tumor was transplanted in the soft tissues.

The aims of the studies were as follows: 1)effects of intrahepatic growth of VX-2 on PGE: VX-2 was implanted percutaneously and tumor growth was followed up by liver scintigraphies. 2)changes of PGE in rabbits that were transplanted VX-2 in the heart and diffuse metastases occured without bone involvements. 3)in vitro studies on the production of PGE in various kinds of tumor cells.

The result were as follows. In the group of bone metastasis, PGE increased when bone scans turned to positive. However, elevation of PGE was not prominent in group of liver metastases. On the other hand, in hematogeneous metastasis, PGE was higher in spite of negative bone scans (in some cases, positive marrow scans). However, the elevation was not higher compared with intramedullary transplantation. In vitro studies revealed changes of PGE among kinds of tumor types, namely, PGE level increased in VX-2 while an appreciable increase was not noted in HeLa S3.