A SIMPLE AND DIRECT RADIOIMMUNOASSAY FOR SERUM AND URINARY METANEPHRINE. DAINABOT COMPANY LIMITED, MATSUDO, CHIBA, JAPAN.

The concentration of metanephrine in serum and urine are measured by several methods such as colorimetry, fluorometry, gas-chromatography-mass spectrometry and hyperperformance liquid chromatography method. However, those methods need long time for pre-treatment and are very intricate. Therefore, we developed a simple, direct and specific radioimmunoassay for serum and urinary metanephrine, in which we used $^{125}$I-synephrine and specific antiserum generated in rabbit by injecting with metanephrine conjugated with bovine serum albumin as described by Grota and Brown.

The sensitivity of the assay was 2 pg/tube. Intra- and inter- assay coefficients of variation were 2.6-7.8 % and 5.0-9.6 %, respectively. The recoveries of metanephrine added at two levels of 250 pg/ml and 500 pg/ml to ten serum samples and ten urine samples (hydrolyzed and diluted) were 96.7 and 105 % in serum, and 94.8 and 103 % in urine, respectively. Normal values of serum metanephrine were 40.3 ± 25.8 pg/ml (mean ± S.D.) from 20 normal subjects. Normal values of 24 hour urinary metanephrine excretion were 12.5 ± 6.7 ug/day from 24 normal subjects. Serum metanephrine values for 7 patients with pheochromocytoma were 210-628 pg/ml. Urinary metanephrine values for 9 patients with pheochromocytoma were 8.7-302 ug/day.