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**A Sensitive Two-Site Enzyme Immunoassay for Human Epidermal Growth Factor (Urogastrone).**

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A sensitive enzyme immunoassay (EIA) was developed for human epidermal growth factor (hEGF), which was isolated from human urine. Our EIA system is based on the sandwiching of an antigen between anti-hEGF IgG coated on a polystyrene tube and anti-hEGF antibody Fab'-linked  $\beta$ -D-galactosidase. This method has the advantages that the procedures are simple and rapid and that the antibody Fab'- $\beta$ -D-galactosidase complex is more stable than radioisotope-labeled IgG. Purified hEGF is detectable at as low as 100 pg/ml. Using this system, hEGF levels in human urine were examined. The values for normal males and females were 48.4 and 83.5 ng/mg creatinine, respectively, which shows that females excrete 1.7 times more hEGF than males.

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**Amino Acid Sequence of A Cardiotoxin-Like Basic Polypeptide (CLBP) Isolated from the Venom of Formosan Cobra (*Naja naja atra*) with Low Cytotoxic Activity.**

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A cardiotoxin-like basic polypeptide, designated as CLBP, was isolated from the venom of *Naja naja atra* by gel filtration on Sephadex G-50 followed by CM-cellulose chromatography. The cytotoxicity toward Yoshida sarcoma cells and the lethal toxicity for mice of CLBP were one-order lower than those of cardiotoxins and cobrotoxin, respectively. CLBP was a single polypeptide consisting of 61 amino acid residues with four intramolecular disulfide linkages. The amino acid sequence of CLBP exhibits a high degree of cardiotoxins from the same venom but differs in 19 to 23 positions.

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**Assessment by A Two-Site Enzyme Immunoassay of Human Epidermal Growth Factor (Urogastrone) in the Urine of Patients with Various Gastrointestinal Diseases Including Malignant Tumors.**

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By using our two-site enzyme immunoassay (EIA) system, the levels of human epidermal growth factor (hEGF) in the urine of patients with various gastrointestinal diseases including malignant tumors were measured. Urinary excretion of hEGF in patients having undergone gastric resection, expressed as a function of creatinine, was found to be somewhat decreased. While the levels of hEGF in patients with gastric cancer were significantly increased. The elution profile of the urine of patients with gastric cancer by gel filtration demonstrated that high molecular weight components, which immunologically cross-reacted with hEGF, were considerably increased.