[J. Clin. Biochem. Nutr., **15**, 57-64 (1993)] [Lab. of Molecular Biology]

Presence of High-Molecular-Weight Basic Fibroblast Growth Factor-Like Immunoreactive Substance in Sera of Patients with Breast Cancer.

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Employing a monoclonal antibody-based two-site enzyme immunoassay method for basic fibroblast growth factor (bFGF), we measured immunoreactive bFGF levels in sera of patients with breast cancer, and found that the level was significantly increased in sera of most patients. Two immunoreactive peaks were observed in the fractions of sera of the normal subjects and the patients with breast cancer by HPLC size-exclusion chromatography: one peak eluted at the void volume; and the other, at the same position as that of standard recombinant bFGF. This result suggests that bFGF-like immunoreactive substance of high molecule (HMW bFGF-LI) together with normal bFGF exists in sera of normal subject and patients with breast cancer. The amount of HMW bFGF-LI of the patient was considerably larger than that of the normal subjects, and the former decreased to the normal level after surgical resection of tumor region.

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Increased Level of Basic Fibroblast Growth Factor in Sera of Patients with Malignant Tumors.

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We measured serum basic fibroblast growth factor (bFGF) level in patients with various malignant tumors by a monoclonal antibody-based enzyme immunoassay in order to study the relationship between bFGF level in serum and human neoplasms. The present study revealed an increased level of immunoreactive bFGF in serum of most of the patients having malignant tumors derived from a variety of tissues. Patients having squamous cell carcinoma of the esophagus and adenocarcinoma of the stomach, large intestine, liver, pancreas and mammary gland all showed significantly higher immunoreactive bFGF levels in their sera than the control subjects.

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Isolation and Amino Acid Sequence of a Phospholipase A_2 Inhibitor from the Blood Plasma of *Agkistrodon blomhoffii siniticus*.

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Phospholipase A_2 inhibitor (PLI) was purified from the blood plasma of Chinese Mamushi, *Agkistrodon blomhoffii siniticus*, by sequential chromatography on Sephadex G-200, Mono Q, and Blue-Sepharose CL-6B columns. The purified PLI was a glycoprotein with an apparent molecular mass of 75 kDa and was composed of a single subunit with a mass of about 20 kDa. The PLI was found to present as a homotrimer of the subunit. The fundamental properties of *A. blomhoffii siniticus* PLI were very similar to those of Habu *Trimeresurus flavoviridis* PLI, although the latter was composed of two homologous subunits, PLI-A and PLI-B. The subunit of *A. blomhoffii siniticus* PLI was composed of 147 amino acid residues with one residue, Asn^{103} being *N*-glycosylated, and the molecular weight of its protein portion was calculated to be 16,444 Da. The amino acid sequence showed about 75 % homology to those of *T. flavoviridis* PLI subunits, and also showed significant homologies to those of the carbohydrate recognition domains of C-type lectins.