ELISA OF HUMAN PLACENTA TYPE GLUTATHIONE S-TRANSFERASE AND ITS APPLICATION IN THE DIAGNOSIS OF HEPATOCARCINOMA

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ABSTRACT

GST-π was purified from human placenta and its antisurum was raised in rabbits. The antibody IgG was purified and degraded into Fab' fragment which was conjugated with horseradish peroxidase (HRP) using N-succinimidyl-4-(N-maleimido-methyl) cyclohexane-carboxylate (SMCC) as crosslinking reagent to produce Fab'-HRP conjugate. A sandwich ELISA was established for the microquantitative determination of GST-π. The sentitivity was 11pg/tube, which was far more sensitive than the radioimmunoassay so far reported. Using this method, the serum GST-π of 41 cases of normal adult was found to be 1.06 + 0.94ng/ml. The upper limit of the normal value was 2.5ng/ml. In 30 cases of primary hepatocarcinoma, the level of serum GST-π was 24.4 + 17.4ng/ml, which was 23 times higher than the normal average value ($p < 0.01$). The positive rate was 90%. In contrast serum GST-π in 25 cases of chronic hepatitis was determined to be 1.74 + 1.16ng/ml, which was not significantly different from the normal value ($p > 0.05$). The pseudo-positive rate was 12.0%.

Key words human placenta type glutathione S-transferase (GST-π), enzyme linked immuno sorbent assay (ELISA), hepatocarcinoma

科技消息

JYM-1 型激光荧光免疫分析仪通过鉴定

中科院安徽光学机械研究所研制的 JYM-1 型激光荧光免疫分析仪样机，6 月 18 日在安徽省医药管理局主持的鉴定会中通过了鉴定，该机在鉴定会之前由中国人民解放军 301 医院，第二军医大学、军科院二所作了测试，并与瑞典 LKB 公司产的专利产品 Arcus 时间分辨荧光免疫分析仪作了对比，鉴定会中又作了技术指标考核，来自上海、北京、长春、西安、安徽的专家一致认为该机的主要性能指标已达到 LKB 产品的水平，对 Eu^{3+} 的最低检测限为 10^{-16}mol/孔，稳定度较好(变异系数<7%)，线性范围宽（横跨 5—6 个数量级)。对癌胚抗原(CEA)和新生儿促甲状腺素 (hTSH) 及铁蛋白抗原的测试表明，它已基本上可满足临床检测的要求。该机用氮分子激光器作为激发光源 (LKB 的为氙灯)有自己的特色，手动控测 12 个样品位，使机器体积较小，成本较低，在电脑控制自动化程度上与 LKB 产品还有较大的差距。该仪器填补了国内的空白，鉴定小组充分肯定了这一成果，并希望作进一步改进，争取早日投产，满足医学科研之急需。

时间分辨荧光免疫分析技术是世界上近十几年发展起来的新技术，是当今最先进的微量激素、维生素、蛋白质、酶、核酸、药物的分析技术，它的灵敏度、线性范围超过了放射免疫分析法，而无放射性所带来的弊病。该仪器的研制成功，加之第二军医大学、解放军总医院、华东师大试剂和仪器的配套研制，必将会加速我国时间分辨荧光免疫分析技术的推广应用。

（胡天喜）