

ther the type of chronic immune activation seen in patients may even contribute to disease progression, certain cytokines released during immune cell interactions possibly supporting growth of the tumor.

Applicability of an Enzyme-linked Immunosorbent Assay for Neopterin Detection for Screening of Blood Donations

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Since 1986 to the end of 1993 c. 350,000 blood donations have been screened for neopterin (in addition to the usual required tests). Neopterin-measurement was routinely performed with a commercially available Radio-Immuno-Assay (RIA). Recently Enzyme-Immuno-Assays (ELISA) have been described. We have evaluated a new commercially available ELISA for its suitability of screening voluntary blood donations. The assay was performed on 1040 consecutive blood donations and results were compared with RIA and, in 142 samples, also with High Performance Liquid Chromatography (HPLC). On repetitive assays of all donations exceeding 8 nmol/L in the initial assay, three of the RIA results were identified as gross outliers. No such outliers were detected in the ELISA. Regarding the reproducibility of results exceeding the cut-off limit of 10 nmol/L neopterin (cut-off for exclusion of blood donations), the ELISA was better than the RIA. Even compared with HPLC, ELISA was slightly better than RIA (based on linear regression analysis, evaluation of frequencies of concentrations exceeding 10 nmol/L and construction of Receiver Operated Characteristics). We thus conclude that this Enzyme-Linked Immuno Sorbent Assay is well suited for screening neopterin concentrations in blood donations. Its slight superiority over the conventional Radio Immuno Assay has to be discussed through employment of higher degree of automatization (which is not easily achieved with RIA).

X-ray and Electron Microscopic Studies on the Crystal Structure of GTP-Cyclohydrolase I from *E. Coli*

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GTP-Cyclohydrolase I of *Escherichia coli* can be crystallized in several different modifications. Thus, crystals of space group $P2_1$ (cell dimensions: $a=204.5 \text{ \AA}$, $b=210.2 \text{ \AA}$, $c=72.2 \text{ \AA}$, $\beta=95.8^\circ$) were obtained from citrate buffer, crystals of space group $C22_1$ ($a=312.2 \text{ \AA}$, $b=227.0 \text{ \AA}$, $c=131.5 \text{ \AA}$) from acetate buffer and polyethylenglycol 6000, and methylpentanediol leads to a tetragonal form ($a=b=104.4 \text{ \AA}$, $c=239.5 \text{ \AA}$). All modifications diffract to beyond 3 \AA resolution. Frozen crystal suspensions were deep-etched and replicated by shadowing or decoration with platinum/carbon, gold or silver, respectively. Electron micrographs were obtained which were subsequently processed by correlation techniques. Miller indices were assigned to observed crystal planes.

Information obtained from the electron micrographs is used to determine the crystal packing, i.e. the translational and rotational position of the crystal lattice. X-ray and electron microscope data suggest that the enzyme is a decamer with D_5 -symmetry. The images of the ab-plane of the citrate crystals clearly reveal the package of the particles in this plane. This information can be used to facilitate the interpretation of the X-ray diffraction data.

Urinary Neopterin Excretion in Acute Myocardial Infarction

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Acute myocardial infarction (AMI) is characterized as a necrosis of the myocardium caused in most cases by an occlusion of a coronary artery, and associated with systemic inflammatory reaction marked by an increase in circulating monocyte-derived cytokines (e.g. interleukin-6) and acute phase proteins. Disorders of cellular immunity have been also described, and may lead in some patients to an autoimmune process known as Dressler's syndrome. We