

the fetus receives the normal paternal allele, so it won't have major B-thalassemia and CVS analysis is not needed. But if it is determined that the mutant paternal allele has been inherited by fetus, then fetus won't be normal and may have minor or major B- thalassemia. Then by CVS analysis and finding no maternal mutation, the probability of major B-thalassemia will be zero.

Keywords: Cff DNA, maternal serum, RhD genotyping, prenatal diagnosis, sex determination

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Development of an immunoaffinity method for purification of streptokinase

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Streptokinase (SK) is a potent activator of plasminogen to plasmin, the enzyme that can solubilize the fibrin network in blood clots. SK is currently used in clinical medicine as a therapeutic agent in treatment of thromboembolic blockages, including coronary thrombosis. It is naturally secreted by β -hemolytic streptococci. There are a few methods for purification of SK, but all of them have drawbacks. We have developed an immunoaffinity chromatography method that can purify the SK in a single step with high yield and stability. At the first stage a CNBr-Activated sepharose 4B-Lysine column was made and the human blood plasma was purified on that. The purified plasminogen was coupled with sepharose 4B. The SK product of the bacterial culture was preliminary extracted by salt precipitation and then purified by affinity chromatography on plasminogen substituted sepharose-4B. The rabbit was immunized with the purified SK and the anti-SK(IgG) purified on another SK substituted sepharose -4B. The immunoaffinity column was developed by coupling the purified anti-SK(IgG) to sepharose 6MB-Protein A. This column could purify the SK of the bacterial culture in a single step, with high yield and stability. The purity of SK was confirmed by SDS-PAGE and its biological activity determined in a specific SK assay. This method of SK purification is superior to the previous conventional methods as it does not require the addition of a tag to the recombinant SK or any chemical modification on the ligand.

Keywords: streptokinase, blood clot, purification, immunoaffinity

P-10-691-3
Assessment of hematological and biochemical parameters in fish with experimental spinal deformities

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Morpho-anatomical abnormalities in fish have been discussed in many studies as a frequent and important problem for aquaculture. Abnormalities of the neuromuscular system and of calcium metabolism, and certain growth, genetic, and mechanical factors may all play roles in the pathogenesis of the disorder. In addition to spinal deformities such as lordosis, scoliosis and kyphosis, which increased with prolonged deficiency, experimentally induced vitamin C deficiency for 300 days retarded growth and caused mortality. Hematological studies represented anemia accompanied by anisocytosis. Hematopoietic

studies on erythropoiesis showed increased reticulocytes. CBC revealed leucopenia accompanied by neutrophilia. Biochemical findings didn't show any significant changes.

Keywords: aquaculture, fish, vitamin C deficiency, hematology

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 β -caseins inhibit the formation of amyloid fibrils in apo-forms of yeast alcohol dehydrogenase

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β -casein is a milk protein having a chaperone activity. One of the states in protein aggregation is formation of amyloid fibrils that are β sheet-rich structures. Nowadays, over 25 disorders such as Alzheimer's disease have been identified that are created by amyloid fibrils. We investigated the effects of bovine and camel β -caseins on prevention of amyloid formation in apo-forms (apo-I and apo-II) of yeast alcohol dehydrogenase (YADH, EC.1.1.1.1). To induce amyloid formation in apo-YADHs, 60% methanol solution was used. Obtained results of UV-Vis spectrophotometer by using Congo Red (CR) reagent and fluorescence spectrofluorimetry by Thioflavin T (ThT) demonstrated that both β -caseins (bovine and camel) have ability to prevent in vitro amyloid formation and they can decrease the formation of amyloid fibrils in apo-forms of YADH. Besides, bovine β -casein revealed more anti-amyloid activity than camel β -casein. Consequently, β -caseins (bovine and camel) have anti-amyloid properties. Our results can provide a good opportunity to design the effective therapeutic methods against amyloid diseases.

Keywords: amyloid fibrils, apo-forms, β -caseins, YADH

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Study of relationship between Beta-2-microglobulin and inflammatory factors in hemodialysis patients

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Beta-2-microglobulin (β 2M) is a medium molecular weight uremic toxin which causes amyloidosis in patients on long-term dialysis. In this article the relation between β 2M and inflammatory factors like as C-reactive protein (CRP), albumin and high density lipoprotein (HDL) in hemodialysis patients was studied. We selected 52 hemodialysis patients and measured β 2M, CRP, albumin and HDL in patients' sera, before and after dialysis. We observed a significant indirect relationship between β 2M and albumin whereas there was no relationship between β 2M with CRP or HDL. We concluded that increasing β 2M in association with inflammation in patients undergoing hemodialysis causes a decrease in serum albumin concentration.

Keywords: albumin, beta-2-microglobulin, hemodialysis, inflammation