comprise these two peptides and understand the effects of the presence of cysteine residue on the rate of amyloid oligomer and nanofibril production. Moreover, structural and physicochemical properties of the oligomers and nanofibrils have been investigated. As a result, α helix to β sheet transition, degree of β-aggregation and morphology of non-modified and modified Aβ peptides were studied using spectropolarimetery (CD), thioflavin T (ThT) extrinsic fluorescence and microscopic methods including TEM and AFM, respectively. As a result, fibrilogenesis of cys-amylid beta (25-35) showed the same rate as it was for Aβ (25-35). Also, their lipid peroxidative effects on model liposomal membrane are reported.

Keywords: Amyloid Beta, Nanofibrils, Alzheimer's Disease, Aggregation.

Abstract No.210

Effect of Chitosan Nanoparticles on T47D Viability

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This study describes the low cytotoxicity of chitosan/DNA complexes on T47D in compare with Lipofectamine as a novel way of gene transfection.The chitosan/DNA nanoparticles were synthesized through the complex coacervation method of the chitosan solution with pTracer-CMV2 plasmid. In this regard two diffrent molecular weight of chitosan(18-50 KD) and several concentrations of each including 1%-0.5%-0.1%-0.05%-0.01%-0.005%-0.001% were used. samples were run through an agarose gel to examine the synthesis of complexes of nanoparticles. In order to measure the Particle size and zeta potential of nanoparticles we used zetasizer. T47D cell line treated with chitosan/plasmid nano particle complex synthesized using above-mentioned dilutions of chitosan. Treatment with Lipofectamine2000 was taken as the control. The Cell viability was determined by MTT assay.Gel electrophoresis results indicated that 1%, 0.5%, 0.1% and 0.05% concentrations could form chitosan/ pTracer-CMV2 nanoparticle. MTT assay indicated that the average viability of cells treated with chitosan/plasmid nanoparticles was about 97% versus 80% for Lipofectamine 2000. Average complex size of18 and 50KD chitosan molecular weight were 197 and 299 nm respectively.Protection of nucleic acid in the serum is a major problem in gene therapy that could be solved by chitosan for its Strong attachmentto DNA.Furthermore using chitosan nanoparticles as a gene delivery system is a safer way of gene transfection for its lower cytotoxic effect.

Keywords: Chitosan Nanoparticle, Cytotoxicity, Lipofectamine, T47D cell line.

Abstract No.211

Interaction of Human Umbilical Cord Derived Stem Cells with Biodegradable PLLA Scaffold

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Tissue Engineering (TE) is the regeneration of biological tissues through the use of cells, with the aid of supporting structures and biomolecules. Mimicking architecture of extracellular matrix is one of the challenges for TE. The ideal scaffolds provide a framework and initial support for the cells to attach, proliferate and differentiate, and form an extracellular matrix (ECM). Electrospined Poly-L-lactic acid (PLLA) was selected for this study. They haven't immunologic response and have FDA permission for medical use. Scaffold surface topography, chemical microstructure and mechanical properties have been shown to significantly influence cell behaviors such as adhesion, growth and differentiation. The umbilical cords derived stem cell interaction with (PLLA) scaffold via evaluation of cell adhesion to synthetic nanofibrous polymeric scaffold. During the experiment, human mesenchymal stem cells (MSCs) were successfully isolated from the umbilical cords and cultured in the PLLA scaffold and then the viability and proliferation of the cells determined via both of trypan blue exclusion test and MTT assay. Results exhibited high biocompatibility which verified by no significant difference between the number of the cultured cells on the scaffold and control samples. Furthermore cell morphology, adhesion

and growth capability were investigated by scanning electron microscopy (SEM(and finally fluorescence staining with DAPI (4', 6-diamidino-2-phenylindole) used for evaluation of mesenchymal cells adhesion and penetration into the scaffolds nanopores. These observations enabled us to conclude that the cell culture on appropriate scaffolds helps the MSC expansion growth and differentiation.

Keywords: Tissue Engineering, Cell Interaction, PLLA Scaffold, Cell Viability, Proliferation, Adhesion.

Abstract No.212

Study of some Chemical Compounds on Tyrosinase Inhibition and Their Potential Application in Melanoma

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Tyrosinase, an enzyme that catalyzes the rate limiting step in melanin biosynthesis and found abundantly in melanoma, considered as a molecular therapeutic target for development of novel prodrugs for selective treatment of melanoma. In addition, tyrosinase inhibitors are becoming important constituents of cosmetic products in relation to hyperpigmentation. The effects of some aromatic and fatty acids on activity of tyrosinase were assessed by kinetic studies. Caffeic, p-comaric acids used as substrates in the catecholase and cresolase reactions of mushroom tyrosinase. 2-amino benzoic acid, 4-amino benzoic acid, nicotinic acid, picolinic acid and oleic acid showed inhibitory activity on cresolase and catecholase reactions. The inhibition mode of nicotinic and picolinic acid were competitive in both activities of enzyme, and their inhibition constants (Ki) were determined as 1.21 and 1.97 mM for cresolase activity and 2.4 and 2.93 mM for catecholase activity, respectively. 2-aminobenzoic and 4-aminobenzoic acids showed non-competitive inhibition for the two activities with Ki of 5.15 and 3.8 μM for cresolase activity and of 4.72 and 20 μM for catecholase activity, respectively. Oleic acid showed mix manner of inhibition with Ki of 0.85 and 0.68 mM in cresolase and catecholase reactions, respectively. Although nicotinic, picolinic and oleic acids have significant cytotoxic effect against melanoma tumor cell line, such effect didn't obtained with caffeic, p-comaric, 2-amino benzoic and 4-amino benzoic acids.

Keywords: Tyrosinase, Melanoma, Kinetic, Cytotoxicity, Acids.

Abstract No.213

Effect of Inorganic Arsenic on the Expression Level of GST Metabolizing Enzymes

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Millions of people around the world drink water with elevated concentrations of arsenic. Epidemiological studies have showed that chronic exposure to arsenic is associated with several diseases including skin, lung and bladder cancers as well as vascular diseases and diabetes. While several studies showed that arsenic is a human carcinogen, the mechanism underlying of this toxicity remain largely unknown. One possible mechanism involves the induction of oxidative stress via the generation of reactive oxygen species (ROS). Glutathione and related enzymes are involved in cellular protection against ROS. Since Glutathione S-transferases (GSTs) involve in the metabolism of inorganic arsenic, the aim of the present study was to demonstrate the expression level of GSTM1 (a member of GST class mu), GSTT1 (a member of GSTclass theta) and GSTO2 (a member of GST class omega) genes in HeLa cell line in the response of sodium arsenite.. In order to determine whether the GSTM1, GSTT1 and GSTO2 mRNA are transcriptionally regulated by sodium arsenite, HeLa cells treated at the final concentration 2μM sodium arsenite for 24 h. The expression level of GSTM1, GSTT1 and GSTO2 was determined with the quantitative real time PCR. The expression of GSTs metabolizing enzymes in sodium arsenite treated cells was slightly decreased compared to untreated cells, but the alterations were not significant.

Keywords: GSTM1, GSTT1, GSTO2, Expression level, Sodium arsenite.

Abstract No.214

Hemoglobin Fructation in the Presence of Iron-chelating Drugs

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