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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