survival in vivo is a major challenge. For overcoming this limitation, genetically modification of MSC by anti-apoptotic and cytoprotective genes has recently been shown to be highly efficient method but there are still concerns to use them in clinical trials.

Objectives: Therefore, we hypothesized that culture of MSCs in the presence of secretome of genetically manipulated cells by one of the cytoprotective gene i.e. Nrf-2 maybe improve cell survival.

Materials & Methods: In this study, we manipulate bone marrow derived mesenchymal stem cells nuclear factor erythroid 2-related factor 2 (Nrf2) gene. NrF2 is a transcription factor regulates the expression of many antioxidants. Then we cultivate another group of MSCs in the condition medium derived from Nrf2 manipulated cells called secretome. Next, the viability and apoptosis of these cells have evaluated following oxidative stress exposure.

Results: Secretome derived from Nrf2 manipulated cells protect MSCs against cell death and the apoptosis induced by oxidative stress conditions.

Conclusions: Our results suggested that cultivation of MSCs in Nrf2-MSC secretome can be improve cell survival and maybe an appropriate strategy to overcome the limitation of genetically manipulated MSCs. This finding could be use as a novel strategy for enhancing cell engraft and open new window for clinical application of MSCs.

Keywords: Secretome, Mesenchaymal stem cell(MSC), Nrf2

P-1-64621-Effect of isosorbide on MMP-2 activity in Wehi 164 fibrosarcoma cells

*Fatemeh Hajighasemi, Fatemeh Rezaeian
Department of Immunology, Faculty of Medicine, Shahed University, Tehran, Iran.

Introduction: matrix metalloproteinase-2 (MMP-2) is a member of large group of enzymes which has an important effect in degradation of extracellular matrix and plays a key role in inflammation. Isosorbide dinitrate (ISDN) is a nitric oxide donor, widely used in treatment of numerous ischemic heart diseases. Besides anti-inflammatory properties of ISDN have also been demonstrated.

Objectives: In this study the effect of ISDN on MMP-2 activityin Wehi 164 fibrosarcoma cells have been evaluated in vitro.

Materials & Methods: The Wehi 164 fibrosarcoma cells were cultured in complete RPMI medium. Then the cells at logarithmic growth phase were incubated with different concentrations of isosorbide ($1.6\times 10^{-3}\times 4\text{-}\ 10^{-6}$ M) for 24 hours. Subsequently the MMP-2 activityin the cell culture supernates was detected with gelatin zymography.

Results: The MMP-2 activityin Wehi 164 fibrosarcoma cells treated with different concentrations of isosorbide did not show any significant difference with untreated control cells.

Conclusions: According to the results of present study, isosorbide had no significant effect on MMP-2 activity in Wehi 164 fibrosarcoma cells. These findings suggest that anti-inflammatory properties of isosorbide which was reported by others´ researches may be result of MMP-2 independent mechanism(s).

Keywords: Isosorbide, MMP-2, fibrosarcoma

P-1-65056-Improved Real-time RT-PCR assays of two colorectal cancer peripheral blood mRNA biomarkers: A pilot study

Reza Yadegarazari[1, 2], Taghi Hassanzadeh[1], Amir Majlesi[3], Amir Keshvari[4], Alireza Monsef Esfahani[5]Nooshin Shabab[1, 2] and Massoud Saidijam[*1, 2]
[1]Research Center for Molecular Medicine, Hamadan University of Medical Sciences, Hamadan, Iran; [2]Dept. of Genetics and Molecular Medicine, Hamadan University of Medical Sciences, Hamadan, Iran; [3]Dept. of Gastrointestinal Disease Beheshti Hospital of Hamadan University of Medical Sciences, Hamadan, Iran;
[4] Dept. of General Surgery, Imam Khomeini Hospital of Tehran University of Medical Sciences, Tehran, Iran;
[5]Dept. of Pathology, Hamadan University of Medical Sciences, Hamadan, Iran
*Corresponding author: Mobile: +989121324616 Fax: +988118380208 Email:sjam110@yahoo.com
Faculty of medicine,Hamadan University of Medical Sciences, Fahmideh Street, Hamadan, Iran

Background: Colorectal cancer (CRC) is the third most commonly diagnosed cancer in males and the second in females. Efficient screening for detection of CRC at earlier stages reduces its mortality.

Objectives: The purpose of this study was to investigate expression of carcinoembryonic antigen (CEA) and human telomerase reverse transcriptase (hTERT) mRNA in peripheral blood of CRC patients in non-metastatic stages and to present strategies for early detection screen test.

Materials andMethods: A number of 27 patients from stages II and III (9,10 and 8 patients, respectively) and 27 healthy individuals were studied. Expression of CEA, hTERT mRNA and 18srRNA (as reference gene) were determined based on the real-time RT-PCR on cDNA samples, synthesized from reverse transcription of 3 micrograms of total peripheral blood RNA in 3 separate vials (1 microgram per vial).

Results and Conclusions: Positive expression rate of CEA mRNA and hTERT mRNA in patient group were78% and 81% respectively. These values were higher than healthy group ($P < 0.001$). These rates were also meaningfully higher than the results of individual vials containing cDNA samples, synthesized from reverse transcription of 1 microgram of total RNA. Difference between Ct values of markers with 18srRNA (ΔCt) was higher in healthy group than patient group. Therefore, a ΔCt cut-off value was determined for distinguishing between true and false positive results. Concurrent expression of both markers was found in 67% of patients, which was higher than healthy cases (11%). Combination of concurrent marker expression with cut-off point strategy increased specificity to 100%. These results showed that concurrent evaluation of markers expression and performing the test on 3 micrograms of sample in 3 separate vialsmay respectively increase specificity and sensitivity of real-time RT-PCR for early detection of non-metastatic CRC. However, more investigations with larger number of samples are needed to verify these results.

Keywords: Carcinoembryonic antigen; biomarker; colorectal cancer.

P-1-69231-3´untranslated region nucleotide analysis in coronaviruses of different species

Raheleh Majdani
Department of Microbiology, Faculty of basic science, University of Maragheh, Maragheh

Introduction: Coronaviruses are enveloped viruses with a large non-segmented capped and polyadenylated single-stranded RNA genome, located in family Coronaviridae. They are divided into three groups(I to II), based on antigenic and genetic similarities. Groups I and II include animal and human coronaviruses. The coronaviruses are located in group III. The SARS coronavirus is not classified to any of these groups.

Objectives: Because of previous reports on potential of coronaviruses to infect other species such human, understanding genetic characteristics would be very helpful not only in differentiating strains but also in distinguishing origin of each isolate.

Materials & Methods: In this study, 3´untranslated region nucleotide sequence of 23 coronavirus reference strains isolated to different species including SARS Coronavirus obtained from NCBI (Gene bank), analyzed and compared with each other