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The expression of the classical stem cell markers in pancreatic adenocarcinoma cell line

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Pancreatic cancer has been the third leading cause of cancer-related death in USA. Most of the cancer patients get diagnosed in late stage and this minimizes the effectiveness of surgical intervention to less than 20 percentage. Moreover, chemo-radio therapy is not curative thus the survival rate of patients with pancreatic cancer after 5-years was 7%. In USA, 53,070 new cases were estimated diagnosed with pancreatic cancer in 2016, while 41,780 patients was the estimated death from pancreatic cancers. Similar percentage was reported globally, estimated by World Health Organization in 2012 [23]. Presence of cancer stem cells (CSCs) within pancreatic tumor was reported by several groups using unspecific biomarkers. Pluripotent transcription factors such as OCT4, SOX2 and NANOG, that upregulated in embryonic stem cells in contrast to somatic cells, were detected in various types of cancer tumors from adult patients. The aims of this study was to investigate the expression of the classical stem cell markers in pancreatic adenocarcinoma cell line (PANC1). PANC1 cells were characterized by RT-PCR/immuno-staining. Transient over-expression of stem cell promoter-driven reporter plasmid Oct4-eGFP was undertaken using Lipofectamine 2000 transfection reagent. Several embryonic stem cell markers and other cancer related markers were detected which illustrate the nature of pancreatic cancer.

Biography

Hussain R Al-Turaifi obtained his PhD from North East England Stem Cell Institute, Faculty of Medical Sciences, Newcastle University UK and is focusing on Translation Medical Research through enrolling in Translational Medicine Program at The University of Edinburgh, College of Medicine and Veterinary Medicine, School of Biomedical Sciences Edinburgh. As Head of Referral Laboratory, Head of Blood Bank Donation Testing Center and Consultant of Molecular Pathology and Clinical Biochemistry he concentrates on diagnostic clinical laboratory at King Fahad Hofuf Hospital, KSA. He worked in academic field as a faculty of Biomedical School, Newcastle University and in the Department of Medical Biochemistry, College of Medicine, Dammam University, KSA.

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