

ROLE OF BETA TUBULIN IN LEUKEMIA PROGRESSION

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Microtubules regulation helps in the development and maintenance of cell shape, growth, division, motility and in intercellular signaling. As a result the unstable state of these microtubules can be crucial for proper functioning of cell including development of cancer cell. One of the well-known leukemia type chronic myeloid leukemia (CML) is also progressed by microtubules. Our aim is to study the expression of tubulin forms during the CML chronic and blast phases and also the influence of transcription factors, activated by BCR/ABL, on the expression of these beta tubulins. During our bioinformatics analysis we found that transcription factors cyclosporine A (CREB) is involved to inhibit the tubulin gene. We cultured the leukemia cell lines KU812 and TCC-S and after incubation we seed and treat the cell lines with (cyclosporine A) with different concentration and time of interval. Cell proliferation result revealed that after 24 and 48 hours, TCC-S cells incubation with 1mM concentration of cyclosporine A inhibitor (CREB) inhibits TCC-S cell line proliferation effectively in blast phase while 10 mM concentration of cyclosporine A inhibitor (CREB) is significant to inhibit KU812 cells in chronic phase of leukemia. We have also done western blotting to identify the change in tubulin protein but it doesn't give any result however it could be repeated for future work. Furthermore we assess the change in tubulin gene by using qPCR with different tubulin isoforms and we found that the relative expression of tubulins isoforms in tubulin gene is usually up and high regulated in chronic phase comparatively blast phase of leukemia. That suggests that TUBB could be used as biomarkers for leukemia pathology. It is also believed that in chronic phase of leukemia, there would be high ratio of these markers.

Biography

Faizan Raza is a Registered Bio medical Scientist with HCPC-UK. He has completed his Master's degree in Molecular Biology from Nottingham University. He was awarded for international Scholarship from the NTU University for his higher education. During the period of his undergraduate besides his course work, he had been involved in the part time work related to his field in a well reputed Bone Marrow Transplantation centre. He worked more than ten years globally in different laboratories including, Pakistan, UK and UAE. His core skills set as Molecular Specialist, however also supervising laboratories in different section throughout his career. He has also involved in writing research papers and holding more than three publications. After Post-graduation, he pursued for the HCPC Biomedical Scientist exam to recognize as International Biomedical Scientist. While relocating to United Arab Emirates, he joined Dow Diagnostic DHCC as Section Head Molecular Biology and served for almost 2.5 years. He successfully went through the CAP accreditation for the institute and more over obtaining the CAP Inspector Member Certificate. More recently he Joined Pure Health laboratory as Supervisor and located in Al Qassimi Hospital (MOH).

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