Suppression of *AML1/ETO* Fusion Gene Significantly Affects the Expression Levels of *TERT* and *FLT3* Genes in Acute Myeloid Leukaemia (AML) t(8;21) Cells

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AML t(8;21) harbours the fusion oncoprotein AML1/ETO (AE), a fusion of two transcription factors, AE inhibits proper hematopoietic development as various genes switch are disrupted. FLT3 is a gene crucial for sustenance of leukaemic progression. TERT on the other hand, function by stabilizing DNA ends which is important in genomic stability of leukaemic cells. Our results indicates control of AE on the expression of both FLT3 and TERT. siRNA mediated downregulation of AML1/ETO resulted in the suppression of TERT and FLT3 at both transcript and protein levels. Control over AE on FLT3 and TERT occurred in an indirect fashion where downregulation of both transcript and protein was observed at day 10. Overall, our results suggest FLT3 and TERT as accompanying driver mutations in leukaemic progression as AE by itself does not cause leukaemogenesis. Therefore, elucidating interactions between AML1/ETO, FLT3, and TERT will encompass the bulk of our future work.

Keywords: AML1/ETO, FLT3, TERT

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