Molecular profiling of tumour and ctDNA in a gastrointestinal cancer cohort at an academic cancer centre

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Background: Circulating tumour DNA (ctDNA) can provide a minimally invasive liquid biopsy that may better capture tumour heterogeneity than archival biopsies. We report results of ctDNA and tumour molecular profiling from a gastrointestinal subset
Background: FAT1 and miR-221-3p was done in GBM tumor samples (n = 65), as well as in four GBM cell lines (U87MG, U373MG, A172 and LN229). Expression and correlation analysis of FAT1 mRNA expression was done for FAT1 and miR targets by using gene specific primers in GBM tumor samples. In-silico examination of miR targets was done by target prediction software (TargetScan, miR24 and miR222-3p). We have identified CDKN1B, CREBZF, PUMA and PTEN as potential targets of miR-221/222-3p. Furthermore, FAT1 knocked-down cells showed significantly decreased expression of miR221-3p. We have detected increased expression of FAT1 and miRNAs (miR221-3p/miR222-3p) in different GBM cell lines (U87MG, U373MG, A172 & LN229). On FAT1 knockdown, using FAT1 specific siRNA we observed significantly decreased expression of miR-221-3p/miR-222-3p. In-silico analysis identified CDKN1B, CREBZF, PUMA and PTEN knockdown, using FAT1 specific siRNA we observed significantly decreased expression of miR-221-3p/miR-222-3p. The role of FAT1 in tumors is not fully understood, but expression and mechanism involved in the oncogenesis by FAT1 is under study.

Methods: To perform the experiments, knock-down of ATDC gene was performed in NSCLC cell lines. western blot was done at different concentrations and at different times, measuring the decrease of viable cells and higher apoptosis, obtaining significant statistically differences of both values between both groups. Furthermore, ATDC knock-down cell lines treated showed lower migration and invasion. All experiments were conducted in triplicate, and subjected to two-tailed student t-tests, ANOVA, and Scheffe’s tests to determine significance when applicable.

Conclusions: ATDC knock-down cell lines treated showed lower migration and invasion. ATDC knock-down cell lines treated showed lower migration and invasion. All experiments were conducted in triplicate, and subjected to two-tailed student t-tests, ANOVA, and Scheffe’s tests to determine significance when applicable.

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