TGF-β1 SIGNALING REGULATES COLORECTAL TUMOR CELL BEHAVIOR

Neves, L.M.\(^1\,^2\); Paula, C.A.A.\(^2\); Meneghetti, M.C.Z.\(^2\); Cavalheiro, R.P.\(^2\); Lima, M.A.\(^2\); Nader, H.B.\(^2\)

\(^1\) Centro universitário das Faculdades Metropolitanas Unidas (FMU).
\(^2\) Department of Biochemistry, Universidade Federal de São Paulo (UNIFESP).

The secretion of TGF-β1 by the cells is closely related to the tumor progression once it may regulate normal and tumor cells behavior by the interaction of this cytokine with extracellular matrix component such as small leucine-rich proteoglycans (SLRPs). It has been reported that the ectopic expression SLRPs may block TGF-β1 signaling, decreasing cell growth. Thus, this study assessed the relationship between TGF-β1 and SLRPs in colorectal tumor cells (HCT-116) that present the TβRII (type II receptor of the TGF-β1) in a mutated form, and HCT-116 cells over-expressing the wild-type TβRII (HCT-TβRII-T2) using a combination of molecular and cell biology techniques. For this, the HCT-116 cells were transfected with pcDNA3-TβRII plasmid. Despite the fact that HCT-TβRII-T2 cells presented reduced cell viability, they showed a significant increase in cell migration and invasion ability. Regarding SLRPs gene expression, cells showed a distinct pattern being lumican the most up-regulated proteoglycan in HCT-TβRII-T2. Although being preliminary, the data suggest that HCT-TβRII-T2 cells have more pronounced tumorigenic characteristics that may linked to the lumican up-regulation.

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