Maria Lindqvist et al., J Clin Cell Immunol 2018, Volume 9
DOI: 10.4172/2155-9899-C3-054

Vangl2 overexpression increases apoptosis and affects inflammation in Jurkat T-cells

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Statement of the Problem: We have earlier by TUNEL staining established that overexpression of Wnt7a which is a ligand of the Vangl2 receptor increases apoptosis of Jurkat T-cells compared to control. The purpose of this study is to see how overexpression of Vangl2 affects apoptosis and inflammation.

Methods: Jurkat T-cells were cultured on coverslips in 6-well plates until they became 80% confluent. They were transfected with a commercially bought Vangl2-GFP construct for 24 or 48 hours while the controls were transfected with green fluorescent protein (GFP).

Results: The frequency of TUNEL stained cells were higher among the Jurkat T-cells that were transfected with Vangl2 compared to control cells. We could also see a rearrangement of p53 and Th17 expression which are important in inflammation.

Conclusion: We conclude that Vangl2 overexpression affects apoptosis and hypothesize that this is done *via* caspase-8 signaling. We also suggest that the rearrangement of p53 and Th17 expression is a result of actin translocation from the cytoplasm into the nucleus and might be mediated by exosomes.

Biography

Maria Lindqvist has expertise in stem cells therapy, gene therapy, immunotherapy and proteomics. Her goal is to combine these skills in order to be able to offer personalised medicine for diseases like cancer and diabetes as well as rare diseases like myopathies. She is mostly interested in diseases that affect children.

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