Heterogeneity of sympatho-adrenal system reveals new possible origin of neural-crest derived tumors

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Adrenergic chromaffin cells of the adrenal medulla are generated through recruitment of nerve- associated neural crest-derived cells termed Schwann cell precursors (SCPs). The present study evaluates the effect of serotonin precursor (5-HTP) on survival and proliferation of neural crest derived progenitors into chromaffin cells on E13.5 explants derived from C57BL/6 wild type mice. We also investigate whether serotonin (5-HT) enhances neurite outgrowth and proliferation in non differentiated rat pheochromocytoma cells (PC12), which originate from chromaffin cells. Here we report that treatment with serotonin precursors resulted in a significant decrease of proliferating tyrosine hydroxylase positive (TH+) cells in the adrenal gland (AG). In addition, we demonstrated that serotonin enhances neurite outgrowth in non differentiated cells. The preliminary data indicate the potential of serotonin to function as a new molecular target for neural crest-derived tumors as pheochromocytoma.

Biography

Pamela Klecki has completed her Graduation in from University of Vienna. She is currently pursuing her Masters in both Tissue Engineering and Regenerative Medicine at the University of Applied Sciences Technikum Wien and in the Experimental and Medical Biosciences at Linkoping University in Sweden.

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