

## **Galanin and its receptors are expressed in the whole mouse pancreas, isolated acinar and islet cells**

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Galanin is a neurotransmitter/neuromodulator associated with the pancreatic vasculature in many species. Galanin also modulates pancreatic exocrine secretion. Galanin acts *via* three known receptors, galanin receptor 1 (GalR1), GalR2 and GalR3. The galanin receptor expression in the pancreas however is not fully described. We aimed to establish if galanin and its three receptors are expressed in normal mouse pancreas, acinar and islet cells. Pancreata were rapidly harvested from mice. Acinar and islet cells were isolated from mouse pancreas by standard techniques. Extraction of total RNA used a Trizol™ protocol specifically designed for pancreatic tissue. The expression of galanin, GalR1, GalR2 and GalR3 mRNA was determined using real-time reverse transcription-polymerase chain reaction (RT-PCR) with primers designed specifically for these transcripts. 18S rRNA was used as a housekeeping gene for normalisation of expression data. In the whole pancreas (n=3), expression of galanin and its three receptors was detected. GalR3 showed the highest expression followed by GalR1 then GalR2. In islet cells (n=2 preparations) GalR3 was highly expressed whereas GalR1, GalR2 and galanin appear to be poorly expressed. By comparison with islet expression, the acinar cell (n=3 preparations) expression of the three galanin receptors was very low, but surprisingly, galanin was well expressed. We conclude that the three galanin receptors are present in the mouse pancreas, but their relative expression varies with the different cell types studied. The poor expression of galanin receptors in acinar cells is consistent with our finding that galanin does not modulate amylase secretion by directly acting on acinar cells.