PROJECT RESUME

The pineal organ is a neuroendocrine gland in the centre of our brain. Its role is the temporally controlled release of melatonin - the 'hormone of the night' that regulates circadian day/night rhythms. In many animals, the pineal organ functions as a photoreceptive organ, i.e. ambient light levels directly tune melatonin release. However, this function has been lost in mammals, leading to the idea that our pineal gland is only a rudimentary 'third eye'.

Comparably little is known about the origins of the pineal organ during brain development. When and where do pineal progenitor cells form and what are the molecular signals that regulate their formation? This project aims to establish a tissue culture system that will allow us to tackle these questions in a reductionist system: a culture dish where we can easily test the effects of molecular signals on pineal organ development.

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