

#### **11.04 Evidence of mTORC1 pathway in Diffuse Idiopathic Pulmonary Neuroendocrine Cell Hyperplasia (DIPNECH)**

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Diffuse Idiopathic Pulmonary Neuroendocrine Cell Hyperplasia (DIPNECH) is a rare disease affecting essentially women. It is considered pre-neoplastic and is commonly associated with pulmonary carcinoids and less commonly in other lung malignancies. Histologically, there is a proliferation of neuroendocrine cells in the epithelium of the bronchioles (linear, nodular, tumourlets) with occasional peribronchial fibro-inflammatory changes. As the mTOR pathway is described to be involved in the development of pulmonary carcinoids, we explored downstream proteins RPS6 and 4EBP1 on DIPNECH and control lung tissue sections using immunohistochemistry. The cohort of patients included 15 women, aged 26-80. Five were symptomatic (cough, dyspnoea); two had MEN syndrome, 4 previous breast cancer, 11 carcinoids, 2 multiple tumourlets. 7 controls lung tissue without DIPNECH from lobectomies sampled away from carcinoids, lung carcinoma and sarcoma metastases were included. 4EBP1 is ubiquitously expressed in resident pulmonary epithelial cells and expression was observed in all cases with neuroendocrine cell hyperplasia and tumourlets. RPS6 expression varies within resident cells, and was expressed in the majority of neuroendocrine cells but not as diffusely as 4EBP1. This preliminary data shows that mTORC1 pathway protein are expressed in DIPNECH and might support the role of mTOR inhibitors in the treatment of symptomatic patients.

***Conflict of Interest: None to declare***