

Regulation of protein synthesis: Wednesday 4<sup>th</sup> July 11.30

Protein synthesis is essential for cell growth and proliferation, yet it is highly energy and nutrient demanding. Many complications of pregnancy are associated with inadequate maternal blood flow to the placenta, resulting in an impoverished oxygen and nutrient supply. In this lecture we will consider the molecular mechanisms by which cells can adapt to these conditions by regulating protein synthesis in both the short and the long term. We will examine recent data obtained from placentas delivered from different environmental conditions and pregnancy complications, and observe the spectrum of adaptation from physiological to pathophysiological. We will also consider how these data might be confirmed and extended mechanistically in cell culture experiments. Some of the topics introduced in this lecture will be elaborated on in the themed session 'Hypoxia; sensing and consequences' of the Trophoblast meeting in the following week.

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