



ZIHP Special Seminar

Wednesday, September 06, 2017, 17:00 h

University of Zurich, Irchel

Seminar room Y23 K52

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Hypoxia, HIFs and metabolism – the eyes have it

The hypoxic inducible factors (HIFs) are essential mediators of the transcriptional response to low cellular oxygen. These transcription factors are regulated in an oxygen-dependent manner by 3 prolyl hydroxylases, and a single asparaginyl hydroxylase, factor inhibiting HIF (FIH). FIH also targets numerous ankyrin repeat (ANK) containing proteins, and its physiological role in oxygen sensing remains unclear. This presentation will cover two main topics. Firstly, the importance of FIH in hydroxylating HIF and ANK substrates is investigated using comparative genomics, with evidence that hydroxylation of both substrates is conserved in metazoa, although there are specific exceptions. The second topic covers the role of the HIFs, together with the glycolytic enzyme pyruvate kinase M2 (PKM2), in driving the Warburg effect in the mammalian retina, including the generation of a novel spontaneously immortalised Müller cell line.

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