Tuesday May 6, 2014
11.00am

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“The Lysine acetyl transferase PCAF/Kat2b in the control of glucose
metabolism and insulin secretion”

Hosts: Kristina Schoonjans and Johan Auwerx

Conference Room: AI 1153 (*)
EPFL - Lausanne

Abstract
Pancreatic β-cells control insulin secretion through a fine-tuned process. Dysfunctions of this
particular cell type are at the origin of pathological conditions, such as Diabetes Mellitus. A
common component of the two type of diabetes, i.e. immune type 1 and non-immune type 2 (T2D),
is a decrease of β-cell function and/or mass, finally resulting in hyperglycemia and its subsequent
deleterious consequences. Therefore, a complete understanding of the factors and mechanisms
responsible for β-cell maintenance and function could be of interest for the treatment of diabetes.

The P300-CBP Associated Factor (PCAF/Kat2b) is a lysine acetyl transferase closely related to
P300, CBP and GCN5. By using in vitro β-cell lines, Pcaf -/- global KO mice and human T2D
islets, I will present data showing that PCAF is a key factor involved in the control of glucose
metabolism through its direct role on insulin secretion. Global gene expression and ChIP-seq
experiments reveal that PCAF controls a subset of target genes involved in the unfolded protein
response/ER stress pathway. Our findings identify PCAF as a new player in type 2 diabetes
physiopathology, and modulating its activity by pharmacological compound could represent an
interesting therapeutic avenue for the treatment of T2D.

(*) IMPORTANT NOTICE: All external participants have to pass through SV Reception/Welcome Desk to be able to access to AI 1153. Contact person to call at arrival at SV Reception Desk: Johan Auwerx 30951 / Administrative Assistant: 39522.