Beta Cell Interest Group (BIG) Seminar

Current and ongoing beta cell research is presented in this weekly seminar by faculty, postdoctoral fellows and students. If you are interested in attending the Beta Cell Interest Group (BIG) seminars and joining the BIG community, please contact David Jacobson.

Keywords: beta cell BIG

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Meeting Details

Start Date / Time	October 30, 2013 at 9:00 AM
End Date / Time	October 30, 2013 at 10:00 AM
Duration	1 hour(s)
Location	512 Light Hall
Presenter Name	David Scoville (Stein lab)
Presentation Title	Identification and characterization of the novel interaction between MafA and the MLL3/4 complex
Status	This meeting has already occurred

Meeting Agenda/Notes

MafA and MafB, two closely related transcription factors, play critical roles in the formation of functional β-cells. My work aims to further understand the mechanisms by which MafA promotes expression of key β-cell genes. I have used a co-immunoprecipitation (co-IP) technique that utilizes “in cell” chemical cross-linking reagents to isolate MafA binding partners, and mass spectrometry (MS) to identify these proteins. I have detected as a MafA coregulator the MLL3/4 complex, which catalyzes the activating epigenetic H3K4 trimethylation (H3K4me3) mark. Experiments in a newly generated human β-cell line have shown that both MafA and MafB interact with this complex, likely through a heterodimer of MafA and MafB. I am currently working to dtermine whether MafA and the MLL3/4 complex interact *in vivo* in human tissue, and using mouse models containing β-cell specific deletions of MafA and NCoA6, an essential member of the MLL3/4 complex, to characterize the function of this interaction.