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Gene expression profiling of MafA, MafB, and MafA/MafB Mutants in E18.5 pancreas - Study GBCO3121

Genomics Study Specifications

Study Name	Gene expression profiling of MafA, MafB, and MafA/MafB Mutants in E18.5 pancreas
Contact Name	Roland W. Stein (Vanderbilt University Medical Center)
Publication	Not provided
My Strategies	Return to My Strategies page
Classification	Targets and roles of transcriptional regulators
Links	 Biomaterials Graph  ArrayExpress
BCBC Release Date	February 09, 2009
Public Release Date	July 29, 2011
Citation	<i>unavailable</i>

Synopsis**Study Description**

Goals

Approaches

Results

Conclusions

Related Studies

MafA and MafB transcription factors have been shown to be key regulators of insulin and glucagon transcription. MafB is essential for alpha and beta cell differentiation, as MafB deficient mice produced fewer insulin+ and glucagon+ cells during development, with MafA expressed in remaining insulin+ cells. In contrast, beta cell development was reported to be normal in a total MafA knock out, although the animals developed beta cell dysfunction and diabetes as adults. However, we have found that MafB expression is elevated during development and retained in adult insulin+ cells after conditional removal of MafA in the pancreas. These studies will evaluate the broader significance of these insulin and glucagon regulators in alpha and beta cell development and function. Our efforts will focus on determining if the concerted actions of MafA and MafB factors are significant to beta cell formation, and we specifically plan to: Determine how alpha and beta cell differentiation is affected in MafA/MafB compound mutant mice during pancreas development. cDNA microarray studies (pancchip 6.0) with wild type, MafAKO, MafB^{-/-}, and MafAKOMafB^{-/-} mutant E18.5 pancreata will be performed to comprehensively identify genes controlled by MafA and MafB in developing alpha and beta cells.

Platform types Expression, Expression microarray

Platforms [Show platform Mouse PancChip](#)


Study Design Type

- genetic_modification_design


Study Factors [Show study factors](#)

Study Assays [Show study assays](#)

Access Status

 This resource is publicly viewable.

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 Request from a repository


Primary contributor: [Stein Lab](#)

Co-contributed by:

- [Stoeckert Lab](#)

Resource Tags


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Resource History & Actions

Approved on Feb 09, 2009

Last modified on Aug 02, 2011

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Related resources**BCBC**

No matching resources

Other Consortia

No matching resources

Data courtesy of [dkCOIN](#). Only public resources are displayed.

Access to Study Data

This Study Data is publicly available to all users.

Gene List(s)

Use the following form(s) to refine the parameters and add the gene list to a strategy:

E18.5 Mafa KO versus wild type mouse pancreas

|Fold Change| Greater Than:

Confidence Level: High Confidence All Results

For a microarray experiment a result with high confidence has a confidence level of at least 80%.

For a ChIP-chip experiment a result with high confidence has a confidence level of at least 90% and all fold changes are positive.

Reference (Denominator): WT E18.5 Mouse Pancreas

E18.5 Mafb KO versus wild type mouse pancreas

E18.5 Mafa/Mafb KO versus wild type mouse pancreas

Genome Browser


There are no genome browser tracks currently available for this study.

Lists of Locations

There are no genomic location datasets currently available for this study.

Repositories


Stein Lab

 Request this resource

Stock #: *Not provided*
Availability Notes: *Not provided*

Comments

There are no comments for this entry.

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