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foxA1 and beta cell function - Study GBCO1030**Genomics Study Specifications**

Study Name	foxA1 and beta cell function
Contact Name	Klaus Kaestner (University of Pennsylvania)
Publication	http://www.ncbi.nlm.nih.gov/pubmed/17185391
My Strategies	Return to My Strategies page
Classification	Targets and roles of transcriptional regulators; Islet/beta-cell stimulation/injury; Cell stimulation/injury
Links	 Biomaterials Graph  ArrayExpress
BCBC Release Date	March 03, 2004
Public Release Date	March 03, 2004
Citation	Hardy OT, Hohmeier HE, Becker TC, Manduchi E, Doliba NM, Gupta RK, White P, Stoeckert CJ, Matschinsky FM, Newgard CB, Kaestner KH. Functional genomics of the beta-cell: short-chain 3-hydroxyacyl-coenzyme A dehydrogenase regulates insulin secretion independent of K+ currents . Mol Endocrinol. 2007. 21:765-73

Synopsis**Study Description**

Goals

Approaches

Results

Conclusions

Related Studies


The aim of this experiment was to use microarray analysis to examine the phenotype of the foxA1 (HNF3alpha) null mouse. foxA1 has a central role in the regulatory control of islet genes essential for glucose homeostasis in vivo. Previous studies have shown that the foxA1 null mouse demonstrates severe postnatal growth retardation followed by death between P2 and P12. These mutant mice are hypoglycemic despite unchanged expression of foxA1 target genes involved in hepatic gluconeogenesis. foxA1 is known to bind to and transactivate the proglucagon gene promoter and mice null for this gene have a 70% reduction in pancreatic proglucagon gene expression and plasma glucagon levels are reduced markedly. Marco Vatamaniuk from Klaus Kaestner Lab extracted RNA from isolated islets. Three biological replicates were provided for both the WT and Null.

Platform types	Expression, Expression microarray
Platforms	Show platform Mouse PancChip
Study Design Type	<ul style="list-style-type: none"> dye_swap_design genetic_modification_design
Study Factors	Show study factors
Study Assays	Show study assays


Access to Study Data

This Study Data is publicly available to all users.

Access Status

 This resource is publicly viewable.

Request this Resource

 Request from a repository

Primary contributor: [Kaestner Lab](#)

Co-contributed by:

- [Stoeckert Lab](#)

Resource Tags


forkhead box A1, Foxa1, Hadh, Hadhsc, Hnf3a, hydroxyacyl-Coenzyme A dehydrogenase, Mouse PanchChip 5.0, PanChip, SCHAD

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Resource History & Actions

Approved on Mar 03, 2004
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.

Gene List(s)

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

FoxA1 Knock Out (-/-) versus Wild Type Mouse Islets

|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): control

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

Kaestner Lab

 Request this resource

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

Comments

There are no comments for this entry.

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