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

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Transcriptional profiling of stress-response in cultured porcine islets - Study GBCO3244

Genomics Study Specifications

Study Name	Transcriptional profiling of stress-response in cultured porcine islets
Contact Name	Scott C. Fahrenkrug (Department of Animal Science - University Of Minnesota)
Publication	http://www.ncbi.nlm.nih.gov/pubmed/17407763
My Strategies	Return to My Strategies page
Classification	Islet/beta-cell stimulation/injury; Cell stimulation/injury
Links	 Biomaterials Graph  GEO
BCBC Release Date	May 12, 2008
Public Release Date	May 12, 2008
Citation	Dvorak CM, Hårdstedt M, Xie H, Wang M, Papas KK, Hering BJ, Murtaugh MP, Fahrenkrug SC. Transcriptional profiling of stress response in cultured porcine islets . <i>Biochem Biophys Res Commun.</i> 2007. 357:118-25

Synopsis**Study Description**

Goals

Approaches

Results

Conclusions

Related Studies

An increasing demand for cell-based diabetes therapy could be met through xenotransplantation of adult porcine islets. Use of islet xenotransplantation on a large scale would require rigorous safety and quality control measures to maximize transplant success. Development of molecular tools to monitor porcine islet cellular responses to ischemic, osmotic, mechanical and oxidative stresses during islet cell processing and post-isolation culturing would aid the rational design of cytoprotective strategies aimed at improving transplant outcomes. In addition, gene expression signatures informative for islet quality could serve as an adjunct to physiological testing to establish the suitability of islet products for transplantation. Experiment Overall Design: Nine adult Landrace sows were sacrificed, the pancreases were dissected, and islet cells isolated as previously described. Islet preparation purity was assessed by light microscopy after staining with diphenylthiocarbazon and ranged between 90-95% for the preparations used. Profiles of islet cells cultured under standard conditions were compared to islet cells cultured under stress conditions with elevated glucose (16.7 mM) or addition of inflammatory cytokines (IL-1beta, TNF-alpha, and IFN-gamma), or both, for 48 hours.

Platform types Expression, Expression microarray


Platforms [Show platform Pig_Array_Ready Oligo set](#)

Study Design Type


- compound_treatment_design

Study Factors [Show study factors](#)

Access Status

 This resource is publicly viewable.


Request this Resource


 Request from a repository

Primary contributor: [Stoeckert Lab](#)

Resource Tags

APOC3, apolipoprotein C-III TTR, CCAAT/enhancer binding protein (C/EBP), Cebp, C/EBPd, delta, Pig_Array_Ready Oligo set v1.0, protein-glutamine-gamma-glutamyltransferase), TGM2, thioredoxin interacting protein, transglutaminase 2 (C polypeptide, transthyretin MARCKS myristoylated alanine-rich protein kinase C substrate, TXNIP

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Resource History & Actions

Approved on May 12, 2008
Last modified on Jan 17, 2012

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Related resources**BCBC**

No matching resources

Other Consortia

No matching resources

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

Study Assays

Show study assays

Access to Study Data

This Study Data is publicly available to all users.

Gene List(s)

There are no gene lists currently available for this study.

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


Stoeckert Lab

 Request this resource

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

Comments

There are no comments for this entry.

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