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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<br>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. Biochem Biophys Res Commun. 2007. 357:118-25 |
| **Synopsis** | Study Description \| Goals \| Approaches \| Results \| Conclusions \| Related Studies<br>An increasing demand for cell-based diabetes therapy could be met through xenotransplantation of adult porcine islets. Use of islet xenotranplantation 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 diphenylthiocarbazone 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

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Primary contributor: Stoeckert Lab

## Resource Tags

APOC3, apolipoprotein C-III TTR, CCAAT/enhancer binding protein (C/EBP), Cebpd, 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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*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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