Human skeletal muscle - type 2 diabetes - Swedish males - Study GBCO2360

Genomics Study Specifications

Study Name: Human skeletal muscle - type 2 diabetes - Swedish males

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Classification: Cell stimulation/injury

Links
- Biomaterials Graph
- ArrayExpress

BCBC Release Date: April 13, 2009

Public Release Date: April 13, 2009


Synopsis

DNA microarrays can be used to discover gene expression changes characteristic of human disease. This is challenging, however, when relevant differences are subtle at the level of individual genes. We introduce an analytical strategy, Gene Set Enrichment Analysis, designed to detect modest but coordinate changes in the expression of groups of functionally related genes. Using this approach, we identify a set of genes involved in oxidative phosphorylation whose expression is coordinately decreased in human diabetic muscle. Expression of these genes is high at sites of insulin-mediated glucose disposal, activated by PGC-1a, and correlated with total-body aerobic capacity. Our results associate this gene set with clinically important variation in human metabolism, and illustrate the value of pathway relationships in the analysis of genomic profiling experiments.

Access Status

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Primary contributor: Stoeckert Lab

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Resource History & Actions

Approved on Apr 13, 2009
Last modified on Jan 17, 2012

Related resources

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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

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