Author's response to reviews

Title: Gene expression of sternohyoid and diaphragm muscles in type 2 diabetic rats

Authors:

Erik van Lunteren (exv4@cwru.edu)
Michelle Moyer (michelle.moyer@va.gov)

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We would like to thank the reviewers for their helpful comments about our manuscript. The manuscript has been revised and two tables have been added.

RESPONSES TO REVIEWERS

Reviewer #1:

GENERAL COMMENTS

Addition of functional data: We agree that obtaining functional data with western blotting is an interesting avenue. Examination of molecular mechanisms responsible for genes changes that were identified in this experiment is an excellent idea for future experiments. However, our experiments were focused on diabetic changes in transcriptional regulation and how these changes differed between sternohyoid and diaphragm muscle of type 2 diabetic rats versus the previously published transcription regulation data on type 1 diabetic rats.

MINOR REVISIONS

Methods, First Paragraph incorrect symbols: The symbols for the lean rats (+/?) indicate that they were either FA/FA or FA/fa by indicating that the first allele was dominant and the second was undetermined. This is a common notation by Charles Rivers labs in untyped controls with an observable phenotype.

Results, Incorrect statement: This statement was worded incorrectly. We meant to say that the genes that were increased in carbohydrate metabolism (1 in diaphragm and none in sternohyoid) were scarcer than those that were decreased (6 in diaphragm and 2 in sternohyoid). This section has been corrected in the manuscript.

MAJOR REVISIONS

Show molecular mechanisms of gene expression control based on gene expression data: We agree that obtaining functional data with western blotting is an interesting avenue. Examination of molecular mechanisms responsible for genes changes that were identified in this experiment is an excellent idea for future experiments. However, our experiments were focused on diabetic changes in transcriptional regulation and how these changes differed between sternohyoid
and diaphragm muscle of type 2 diabetic rats versus the previously published transcription regulation data on type 1 diabetic rats.

Reviewer #2:

**Introduce a table or figure comparing modifications in gene expression in type 1 and type 2 diabetes:** New tables have been added comparing gene changes in diaphragm of type 1 and type 2 diabetic rats based on the results from our previously published study in streptozotocin-induced diabetic type 1 rats.

Reviewer #3:

**Add RNA-Seq experiments and Analyze key protein levels:** We agree that obtaining functional data with western blotting is an interesting avenue. Examination of molecular mechanisms responsible for genes changes that were identified in this experiment is an excellent idea for future experiments. However, our experiments were focused on diabetic changes in transcriptional regulation and how these changes differed between sternohyoid and diaphragm muscle of type 2 diabetic rats versus the previously published transcription regulation data on type 1 diabetic rats.