PUBLICATIONS

Refereed Articles

England, E.M., S.K. Matarneh, T.L. Scheffler, C. Wachet, and D.E. Gerrard. 2014. pH inactivation of phosphofructokinase arrests postmortem glycolysis. Meat Science (in press).

Scheffler, T.L., J.M. Scheffler, S.C. Kasten, S. Park, Y. Wu, R.P. McMillan, M.W. Hulver, M.I. Frisard, and D.E. Gerrard. 2014. Fiber hypertrophy and oxidative capacity can occur simultaneously in glycolytic pig skeletal muscle. American Journal of Physiology – Cell Physiology, 306: C354-363.

Kapper, C., C.J. Walukonis, T.L. Scheffler, J.M. Scheffler, C. Don, M.T. Morgan, and D.E. Gerrard. 2014. Moisture absorption early postmortem predicts ultimate drip loss in fresh pork. Meat Science, 96: 971-976.

Scheffler, T.L., S.C. Kasten, E.M. England, J.M. Scheffler, and D.E. Gerrard. 2014. Contribution of the phosphagen system to postmortem muscle metabolism in AMP-activated protein kinase $\gamma3^{R200Q}$ pig longissimus muscle. Meat Science, 96: 876-883.

Fisher, K.D., T.L. Scheffler, S.C. Kasten, B.M. Reinholt, G.R. van Eyk, J.E. Escobar, J.M. Scheffler, and D.E. Gerrard. 2013. Energy dense, protein restricted diet increases adiposity and perturbs metabolism in young, genetically lean pigs. PLoS ONE 8(8): e72320. doi: 10.1371/journal.pone.0072320

Scheffler, T.L., A.L. Rosser, S.C. Kasten, J.M. Scheffler, and D.E. Gerrard. 2013. Use of dietary supplementation with β-guanidinopropionic acid to alter phosphocreatine content, postmortem metabolism, and pork quality. Meat Science, 95: 264-271.

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Scheffler, T.L., J.M. Scheffler, S.C. Kasten, A.A. Sosnicki and D.E. Gerrard. 2013. High glycolytic potential does not predict low ultimate pH in pork. Meat Science, 95: 85-91.

Park, S., T.L. Scheffler, S.S. Rossie, and D.E. Gerrard. 2013. AMPK activity is regulated by calcium-mediated protein phosphatase 2A activity. Cell Calcium, 53: 217-223.

Scheffler, T.L., S. Park, and D.E. Gerrard. 2011. Lessons to learn about postmortem metabolism using the AMPK$\gamma3^{R200Q}$ mutation in the pig. Meat Science, 89: 244-250.

Park, S., T.L. Scheffler, and D.E. Gerrard. 2011. Chronic high cytosolic calcium decreases AICAR-induced AMPK activity via calcium/calmodulin activated protein kinase II signaling cascade. Cell Calcium, 50: 73-83.

Park, S., T.L. Scheffler, A.M. Gunawan, H. Shi, C. Zeng, K.M. Hannon, A.L. Grant and D.E. Gerrard. 2009. Chronic elevated calcium blocks AMPK-induced GLUT4 expression in skeletal muscle. American Journal of Physiology – Cell Physiology, 296: 106-115.

Park, S., A.M. Gunawan, T.L. Scheffler, A.L. Grant, and D.E. Gerrard. 2009. Myosin heavy chain isoform content and energy metabolism can be uncoupled in pig skeletal muscle. Journal of Animal Science, 87: 522-531.

Park, S., T.L. Scheffler, M.E. Spurlock, A.L. Grant and D.E. Gerrard. 2009. Chronic activation of 5'-AMP-activated protein kinase changes myosin heavy change expression in growing pigs. Journal of Animal Science, 87: 3124-3133.

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Copenhafer, T.L., B.T. Richert, A.P. Schinckel, A.L. Grant, and D.E. Gerrard. 2006. Augmented postmortem glycolysis does not occur early postmortem in AMPKγ3-mutated porcine muscle of halothane positive pigs. Meat Science. 73: 590-599.

Abstracts

England, E.M., S.K. Matarneh, T.L. Scheffler, C. Wachet, and D.E. Gerrard. 2014. AMP deaminase inhibition extends postmortem glycolysis. AMSA Reciprocal Meat Conference. Madison, WI.

Rodden, G.R., K. Stylianos, J.A. Doering, R.P. McMillan, M.I. Frisard, L. Zhao, T.L. Scheffler, R.P. Rhoads, L. Yang, and R.W. Grange. 2014. Developing a resistance running wheel system for mice. New Directions in Biology and Disease of Skeletal Muscle. Chicago, IL.

Won, G.L., G. Xie, R.L. Boddicker, J.N. Rhoades, T.L. Scheffler, J.M. Scheffler, M.C. Lucy, T.J. Safranski, J.T. Selsby, S. Lonergan, L.H. Baumgard, J.W. Ross, and R.P. Rhoads. 2012. Acute duration heat stress alters expression of cellular bioenergetics-associated genes in skeletal muscle of growing pigs. American Society of Animal Sciences. Phoenix, AZ. W211

Reeves, H.F., G.R. van Eyk, K.M. Seelenbinder, K.L. Price, T.L. Scheffler, D.E Gerrard, J.M. Scheffler, and J. Escobar. 2012. Increased consumption of fat and simple carbohydrates results in obese prepubertal pigs of similar body weight. Experimental Biology. San Diego, CA. 113.3

van Eyk, G.R., K.D. Fisher, S.C. Kasten, T.L. Scheffler, K.L. Price, H.F. Reeves, D.E. Gerrard, J.M. Scheffler, and J. Escobar. 2012. Dietary fat and sugar induce obesity and impair glucose tolerance in prepubertal pigs. Experimental Biology. San Diego, CA. 113.4

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England, E.M., J.M. Scheffler, S. Park, S.C. Kasten, T.L. Scheffler, H. Zhu, K.D. Fisher, B.M. Reinholt, G.R. van Eyk, J.M. Stevenson, R.C. Roberson, and D.E. Gerrard. 2011. Proteolysis may be controlled by postmortem energy metabolism. 56th Annual International Congress of Meat Science and Technology. Ghent, Belgium. 005.

Park, S., H. Zhu, S.C. Kasten, E.M. England, B.M. Reinholt, G.R. van Eyk, R.C. Roberson, K.D. Fisher, T.L. Scheffler, J.M. Scheffler, and D.E. Gerrard. 2011. Myogenic progenitor cells in runt

pigs. 56th Annual International Congress of Meat Science and Technology. Ghent, Belgium. P094.

Zhu, H., S. Park, J.M. Scheffler, E.M. England, S.C. Kasten, T.L. Scheffler, K.D. Fisher, B.M. Reinholt, G.R. van Eyk, J.M. Stevenson, R.C. Roberson, and D.E. Gerrard. 2011. Characterization of porcine satellite cells. 56th Annual International Congress of Meat Science and Technology. Ghent, Belgium. P095.

McCann, M.A., J. M. Scheffler, S.P. Greiner, M.D. Hanigan, G.A. Bridges, S.L. Lake, J.M. Stevenson, H. Jiang, T.L. Scheffler, and D.E. Gerrard. 2011. Early metabolic imprinting events increase marbling scores in fed cattle. ASAS. M59.

Fisher, K.D., T.L. Scheffler, S.C. Kasten, B.M. Reinholt, G.R. van Eyk, J.E. Escobar, J.M. Scheffler, and D.E. Gerrard. 2011. Pre-pubertal pigs as a model for childhood obesity. Experimental Biology. Washington D.C. 109.1

Park, S., S.S. Rossie, E. England, H. Zhu, J.M. Scheffler, S.C. Kasten, T.L. Scheffler, K.D. Fisher, and D.E. Gerrard. 2011. Long-term high calcium decreases AMP-activated protein kinase activity via activating protein phosphatase 2A. Experimental Biology. Washington D.C. LB136.

Scheffler, T.L., J.M. Scheffler, S.C. Kasten, E.M. England, S. Park, and D.E. Gerrard. 2010. Decreasing muscle phosphocreatine slows postmortem glycolysis and improves pork quality. International Congress of Meat Science and Technology. Jeju, South Korea.

Park, S., E.M. England, H. Zhu, J.M. Scheffler, S.C. Kasten, T.L. Scheffler, and D.E. Gerrard. 2010. Intracellular calcium regulates AMP-activated protein kinase activity in an oscillation dependent manner. International Congress of Meat Science and Technology. Jeju, South Korea.

Kasten, S.C., J.M. Scheffler, S. Park, T.L. Scheffler, and D.E. Gerrard. 2010. AMPK's inhibition of mTOR activity mediated by intracellular energy status. International Congress of Meat Science and Technology. Jeju, South Korea. C0030.

Scheffler J.M., T.L. Scheffler, S. Park, E.M. England, K.D. Fisher, J. Killefer, S.F. Holmer, D.D. Boler, J.M. Eggert, and D.E. Gerrard. 2010. Identification of variables useful for prediction of ultimate pH and color in pork. International Congress of Meat Science and Technology. Jeju, South Korea. C0029.

Scheffler, T.L., and D.E. Gerrard. 2009. Glycogen and lactate content do not fully explain differences in pork ultimate pH. International Congress of Meat Science and Technology. Copenhagen, Denmark.

Copenhafer, T.L., B. Richert, A.P. Schinckel, M.E. Doumit, A.L. Grant, and D.E. Gerrard. 2005. Glycogen phosphorylase drives rapid postmortem metabolism in porcine muscle. International Congress of Meat Science and Technology. Baltimore, Maryland.

INVITED RESEARCH PRESENTATIONS

International

T.L. Scheffler, S. Park, and D.E. Gerrard. Lessons to learn about postmortem metabolism using the AMPK$\gamma 3^{R200Q}$ mutation in the pig. International Congress of Meat Science and Technology. Ghent, Belgium. (8/8/2011)

T.L. Scheffler and D.E. Gerrard. Mechanisms controlling pork quality development: the biochemistry controlling postmortem energy metabolism. International Congress of Meat Science and Technology. Beijing, China. (8/7/2007)

National

T.L. Scheffler and D.E. Gerrard. Muscle metabolism in response to selection for improved growth. Midwest Meeting of the American Society of Animal Science. Des Moines, IA. (3/19/2014)

T.L. Scheffler, E.M. England, and D.E. Gerrard. AMP-activated protein kinase as a controller of postmortem glycolysis. American Society of Animal Science. Phoenix, AZ. (2012)

T.L. Scheffler, J.M. Scheffler, S. Park, A.L. Grant, and D.E. Gerrard. The energy metabolism impacts that come along with muscle fiber type and its effect on postmortem metabolism. American Society of Animal Science. Denver, CO. (7/13/2010)