

Title (en)  
METHODS FOR MEASURING REDUCING EQUIVALENT PRODUCTION BY TISSUES TO DETERMINE METABOLIC RATES AND METHODS OF USE

Title (de)  
VERFAHREN ZUR MESSUNG DER REDUZIERUNGSÄQUIVALENTPRODUKTION DURCH GEWEBE ZUR BESTIMMUNG DER STOFFWECHSELRATE UND VERFAHREN ZUR VERWENDUNG DAVON

Title (fr)  
PROCÉDÉS DE MESURE DE LA PRODUCTION ÉQUIVALENTE DE RÉDUCTION PAR DES TISSUS POUR DÉTERMINER DES TAUX MÉTABOLIQUES ET PROCÉDÉS D'UTILISATION

Publication  
**EP 3709818 A4 20210728 (EN)**

Application  
**EP 18878766 A 20181115**

Priority  
• US 201762586578 P 20171115  
• US 201815754126 A 20180221  
• US 2018061349 W 20181115

Abstract (en)  
[origin: WO2019099717A1] Methods for identifying animals that are genetically superior, drugs, nutritional strategies, or physiological manipulations that improve feed efficiency or productivity of animals, e.g., selecting animals that are genetically superior for feed efficiency or productivity based on metabolic rates of particular tissues, wherein metabolic rates of certain tissues such as skeletal muscle are inversely proportional to feed efficiency, while metabolic rates of other tissues such as mammary gland are directly proportional to milk production. Thus, animals with low skeletal muscle metabolic rates are generally more feed efficient, e.g., gain more weight per unit of food. The methods herein may be used to improve the genetics, nutrition, and handling of animals more efficiently produced animal products, e.g., meat production, milk, production, egg production, wool production, etc. The methods herein may also be used to determine estimated breeding values of animals for feed efficiency, growth, or production.

IPC 8 full level  
**A23K 50/00** (2016.01); **A23K 50/10** (2016.01); **C12Q 1/68** (2018.01)

CPC (source: EP)  
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Citation (search report)  
• [I] WO 2017035064 A1 20170302 - UNIV ARIZONA [US]  
• [A] WO 03032234 A1 20030417 - UNIV ARKANSAS [US], et al  
• [XI] RENQUIST B: "Progress Report: Metabolic Rate Assay to Predict Growth Rate of Aquaculture Species 1 PART I: PROJECT TITLE: Efficient, Rapid Assay for Predicting the Growth Rate of Aquaculture Species Based on Metabolic Rate of the Fertilized Egg REPORT GIVEN IN YEAR 2014", 1 January 2014 (2014-01-01), XP055814656, Retrieved from the Internet <URL:http://depts.washington.edu/wracuw/research/Project%20Annual%20Reports/2014\_Renquist\_Growth\_Rate\_Assay.pdf> [retrieved on 20210616]  
• [T] RENQUIST BENJAMIN J. ET AL: "Development of an Assay for High-Throughput Energy Expenditure Monitoring in the Zebrafish", ZEBRAFISH, vol. 10, no. 3, 1 September 2013 (2013-09-01), US, pages 343 - 352, XP055814664, ISSN: 1545-8547, DOI: 10.1089/zeb.2012.0841  
• [A] VINCENT A. ET AL: "Divergent selection for residual feed intake affects the transcriptomic and proteomic profiles of pig skeletal muscle12", JOURNAL OF ANIMAL SCIENCE, vol. 93, no. 6, 1 June 2015 (2015-06-01), US, pages 2745 - 2758, XP055814251, ISSN: 0021-8812, Retrieved from the Internet <URL:http://dx.doi.org/10.2527/jas.2015-8928> DOI: 10.2527/jas.2015-8928

Designated contracting state (EPC)  
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**US 2018061349 W 20181115**; AU 2018370021 A 20181115; BR 112020009559 A 20181115; CA 3082604 A 20181115; CN 201880081453 A 20181115; EP 18878766 A 20181115