Co-expression network analysis predicts a key role of microRNAs in the adaptation of the porcine skeletal muscle to nutrient supply

Emilio Mármol-Sánchez<sup>1</sup>, Yuliaxis Ramayo-Caldas<sup>2</sup>, Raquel Quintanilla<sup>2</sup>, Tainã Figueiredo Cardoso<sup>1</sup>\*, Rayner González-Prendes<sup>3</sup>, Joan Tibau<sup>2</sup>, Marcel Amills<sup>1,4</sup>

<sup>1</sup>Centre for Research in Agricultural Genomics (CRAG), CSIC-IRTA-UAB-UB, Universitat Autònoma de Barcelona, 08193 Bellaterra, Spain.

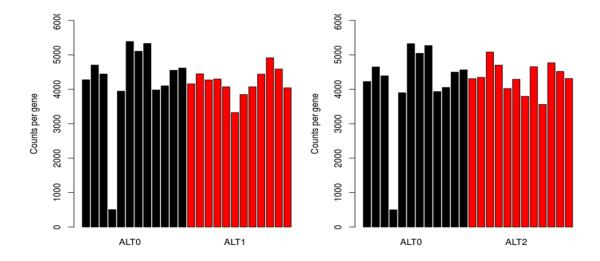
<sup>2</sup>Animal Breeding and Genetics Program, Institute for Research and Technology in Food and Agriculture (IRTA), Torre Marimon, 08140 Caldes de Montbui, Spain.

<sup>3</sup>Universitat de Lleida - Agrotecnio Center, Department of Animal Science, 25198, Lleida, Spain.

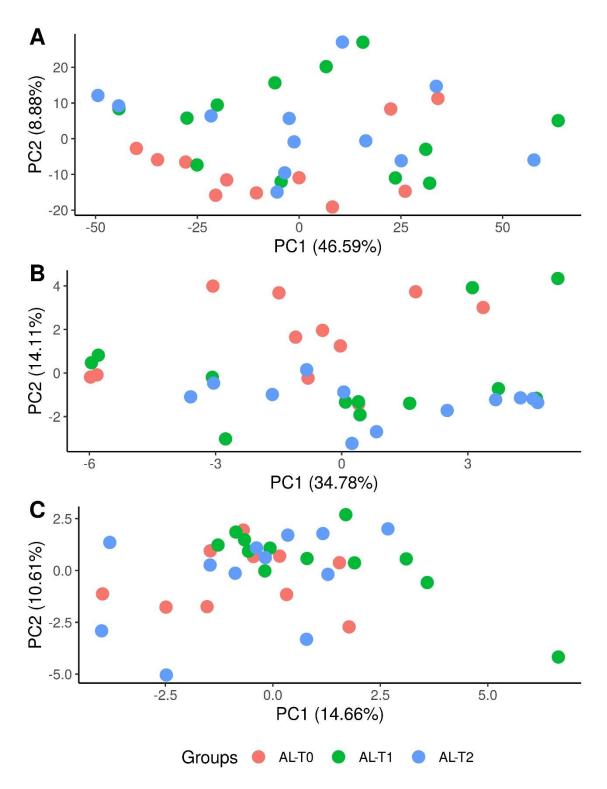
<sup>4</sup>Departament de Ciència Animal i dels Aliments, Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain.

## **ADDITIONAL FIGURES:**

**Additional Fig. 1:** Sequencing depth obtained for samples analyzed in each one of the two contrasts (AL-T0/AL-T1 and AL-T0/AL-T2).

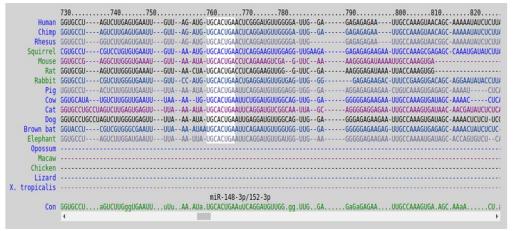


**Additional Fig. 2:** Joint Principal Component Analysis (PCA) clustering of *gluteus medius* skeletal muscle samples (11 AL-T0, 12 AL-T1 and 12 AL-T2 samples) according to the expression profiles of (**A**) mRNAs, (**B**) microRNAs and (**C**) lincRNAs.



**Additional Fig. 3:** Phylogenetically conserved 7mer-8m predicted binding sites in the 3'- UTR of the pig *PDK4* gene for (**A**) ssc-miR-148a-3p and (**B**) ssc-miR-493-5p porcine miRNAs. The TargetScan software was used for generating conservation graphs across the investigated mammalian species. Red nucleotides show complementary matching base-pairs between the seed of the mature miRNA and the 3'UTR of the pig *PDK4* gene.

3' - UGUUUCAAGACAUCACGUGACU - 5' ssc-miR-148a-3p 5' - ...UGAAUUUUAAAAUAUGCACUGAAUUCAG... - 3' *S. scrofa* PDK4 3'-UTR

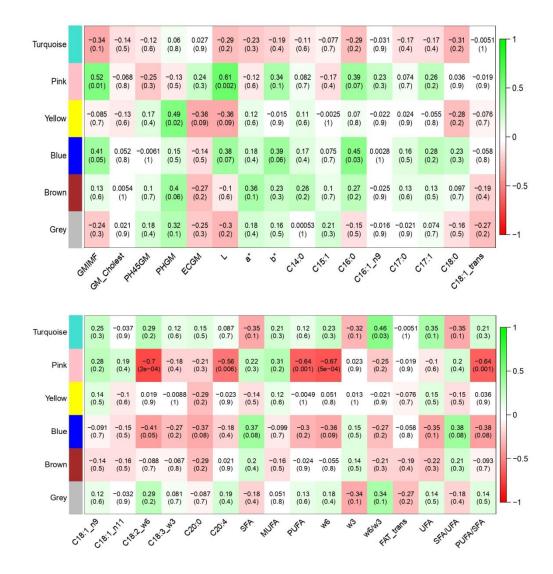


3' - UUACUUUCGGAUGGUACAUGUU - 5' ssc-miR-493-5p 5' - ...UUUAUGUCUAGGCUAUGUACAGAGAAA... - 3' *S. scrofa* PDK4 3'-UTR

В

Α

**Additional Fig. 4:** Gene co-expression module association with meat quality and fatty acids composition traits in the AL-T0/AL-T1 contrast as determined with the WGCNA tool.



**Additional Fig. 5:** Gene co-expression module association with meat quality and fatty acids composition traits in the AL-T0/AL-T2 contrast as determined with the WGCNA tool.

