



HAL
open science

Wild versus lab house mice: multifaceted signature of captive breeding

Caroline Romestaing, Alexandre Dufournet, Solène Rémy, Damien Roussel, Pascale Chevret, Angéline Claire, Laetitia Averty, Julie Ulmann, Léa Amar, Renaud Lebrun, et al.

► To cite this version:

Caroline Romestaing, Alexandre Dufournet, Solène Rémy, Damien Roussel, Pascale Chevret, et al.. Wild versus lab house mice: multifaceted signature of captive breeding. 7th Mouse Meeting, Jun 2024, Vila de Conde, Portugal. hal-04879759

HAL Id: hal-04879759

<https://hal.science/hal-04879759v1>

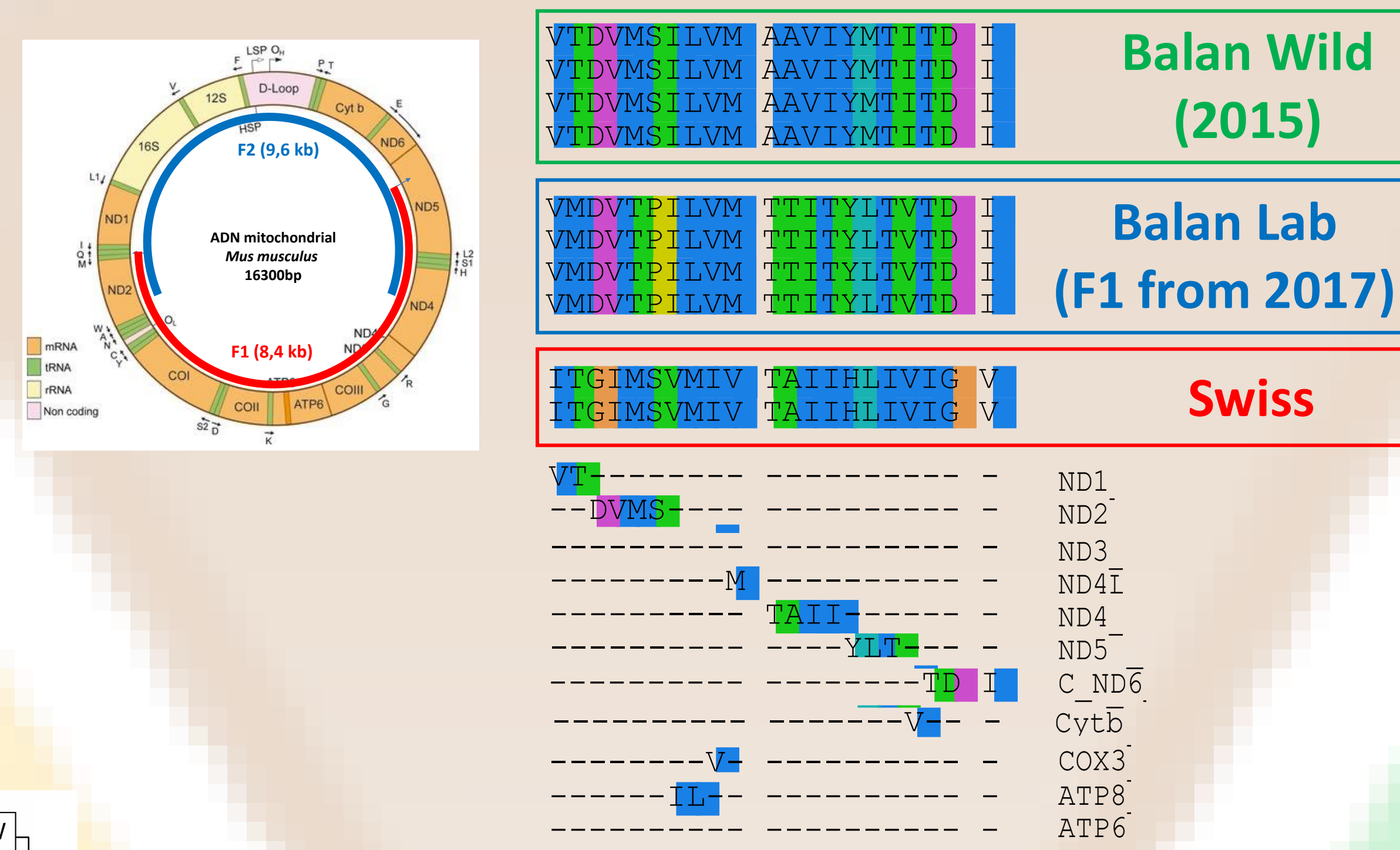
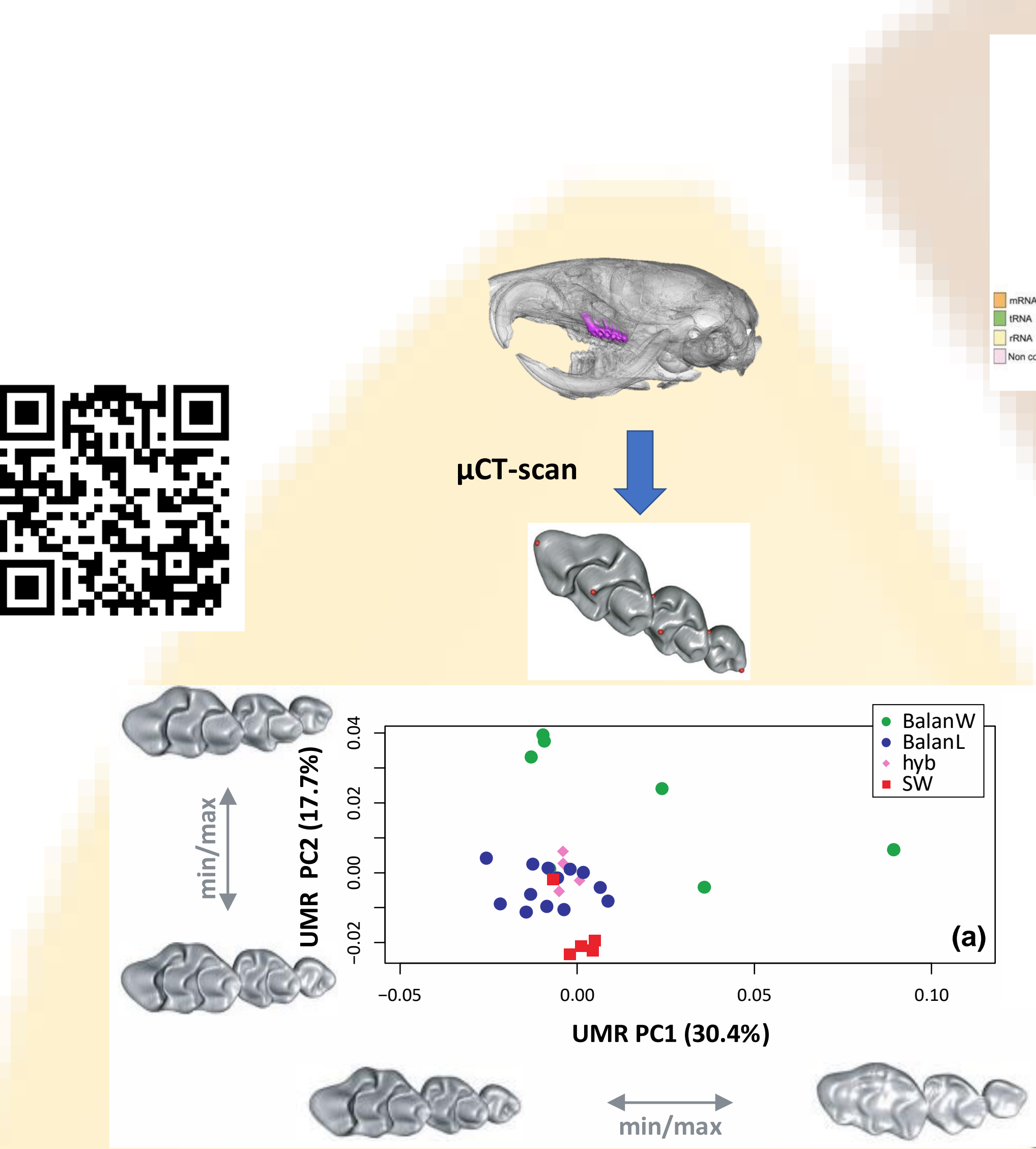
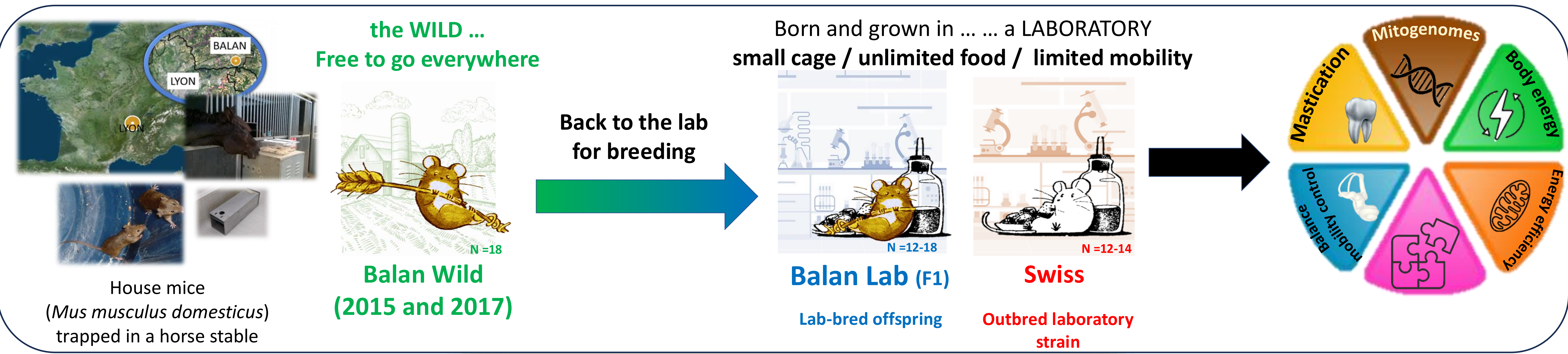
Submitted on 10 Jan 2025

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Wild versus lab house mice: multifaceted signature of captive breeding

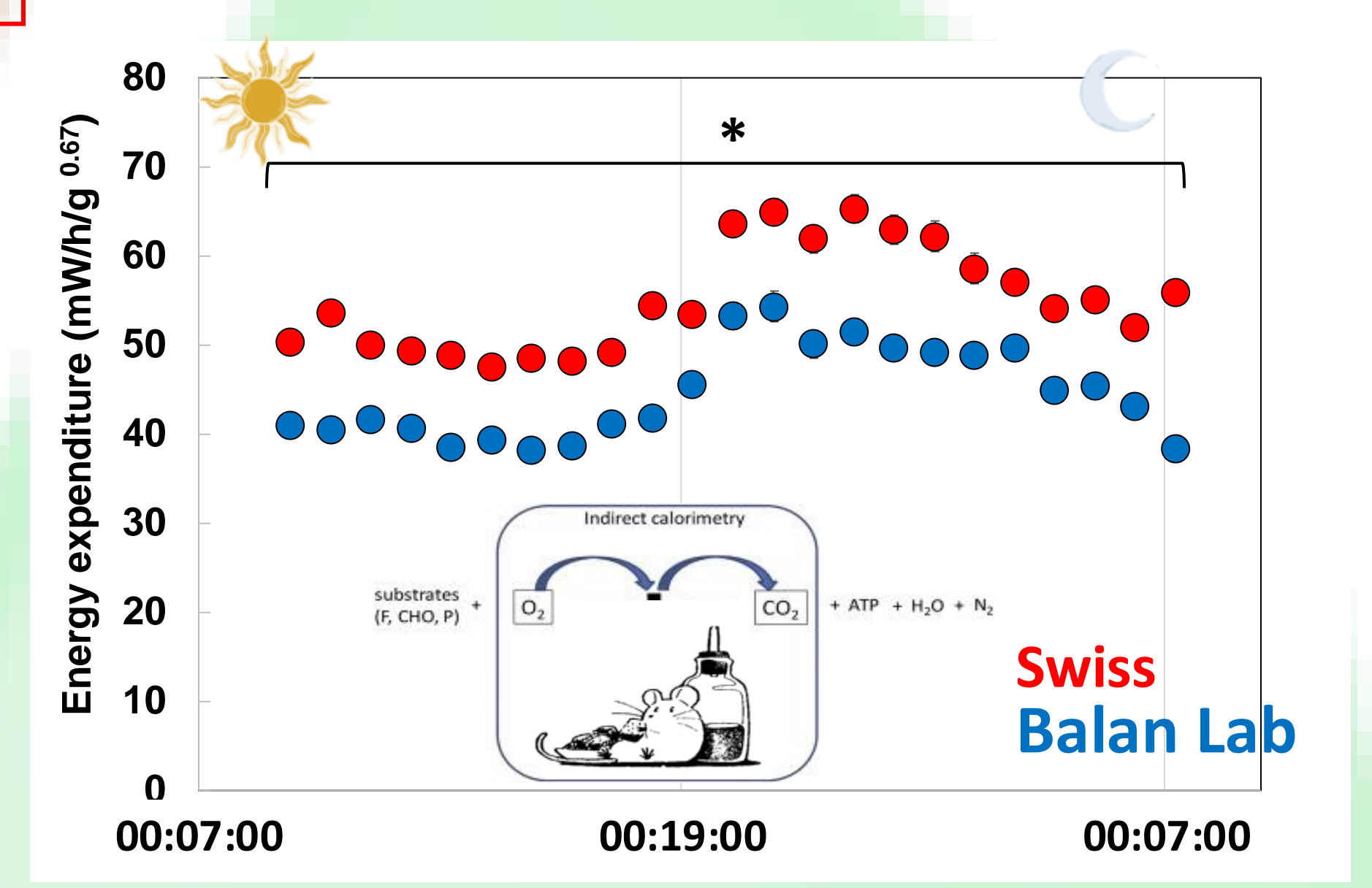
Caroline Romestaing¹; Alexandre Dufournet¹; Solène Rémy¹; Damien Roussel¹; Pascale Chevret²⁻⁵; Angéline Clair⁴; Laetitia Averty⁴; Julie Ulmann⁴; Léa Amar³; Renaud Lebrun³; Sabrina Renaud²



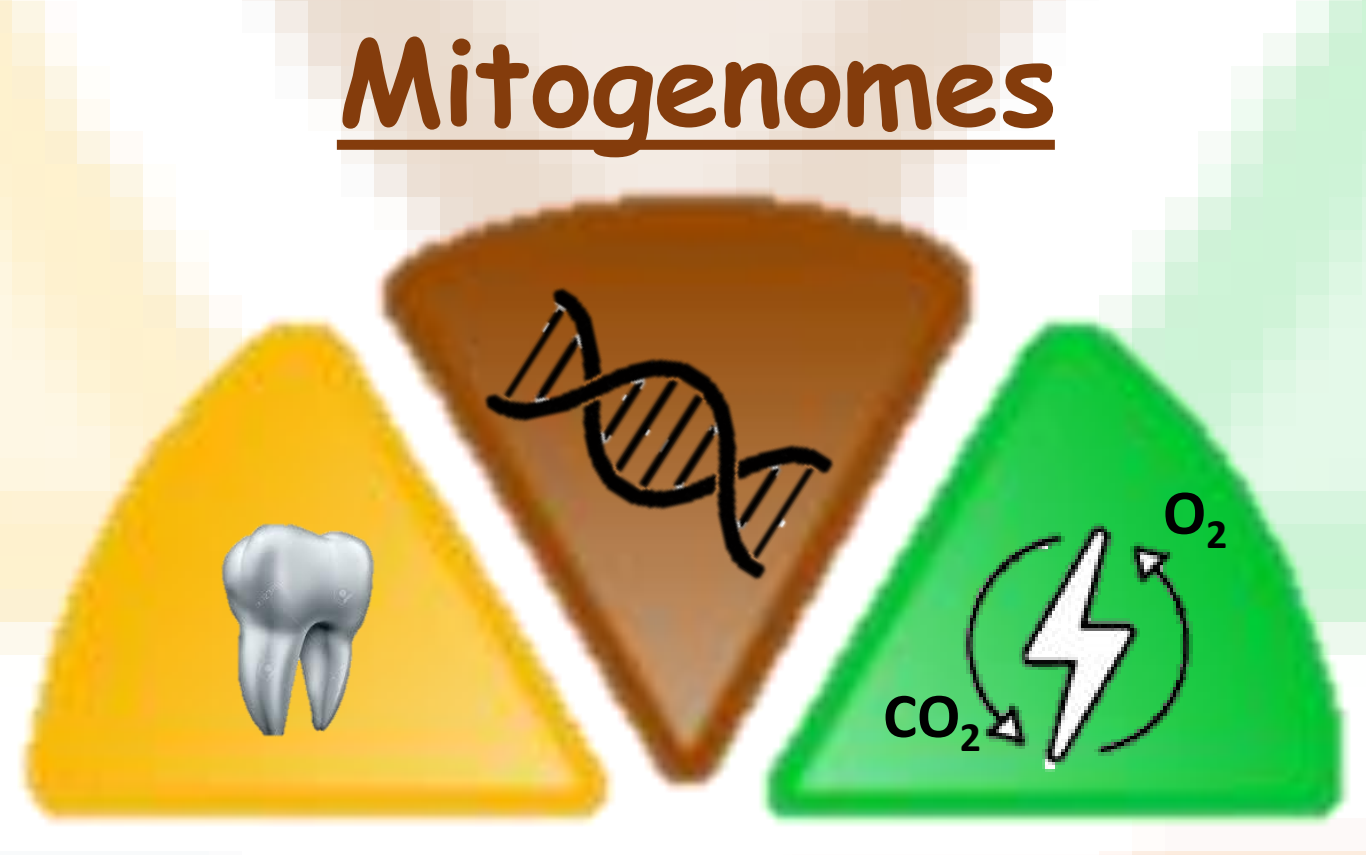
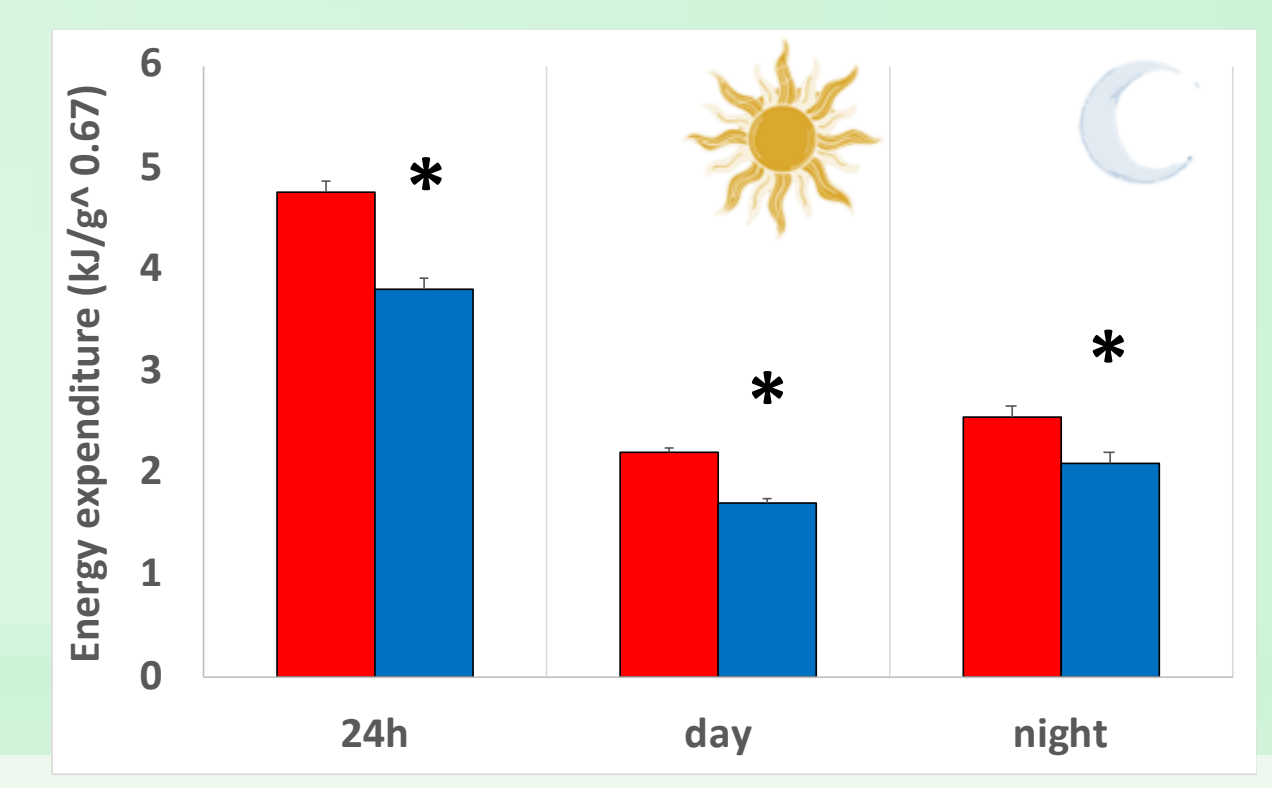
mtDNA haplotypes

Balan Wild 2015 ≠ Balan Wild 2017
→ Population turnover

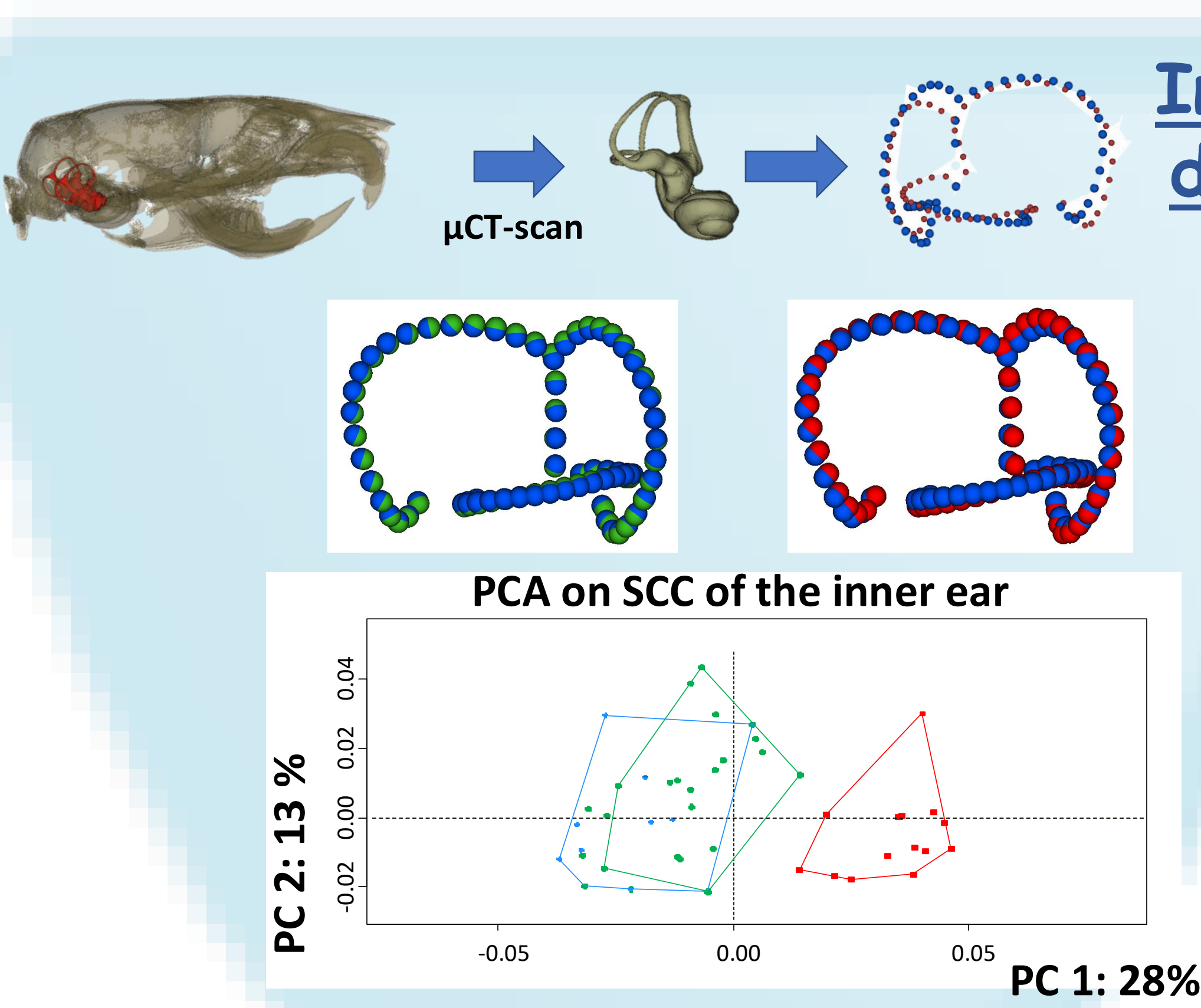
Balan Wild and Balan lab ≠ Swiss
→ ≠ Genetics backgrounds



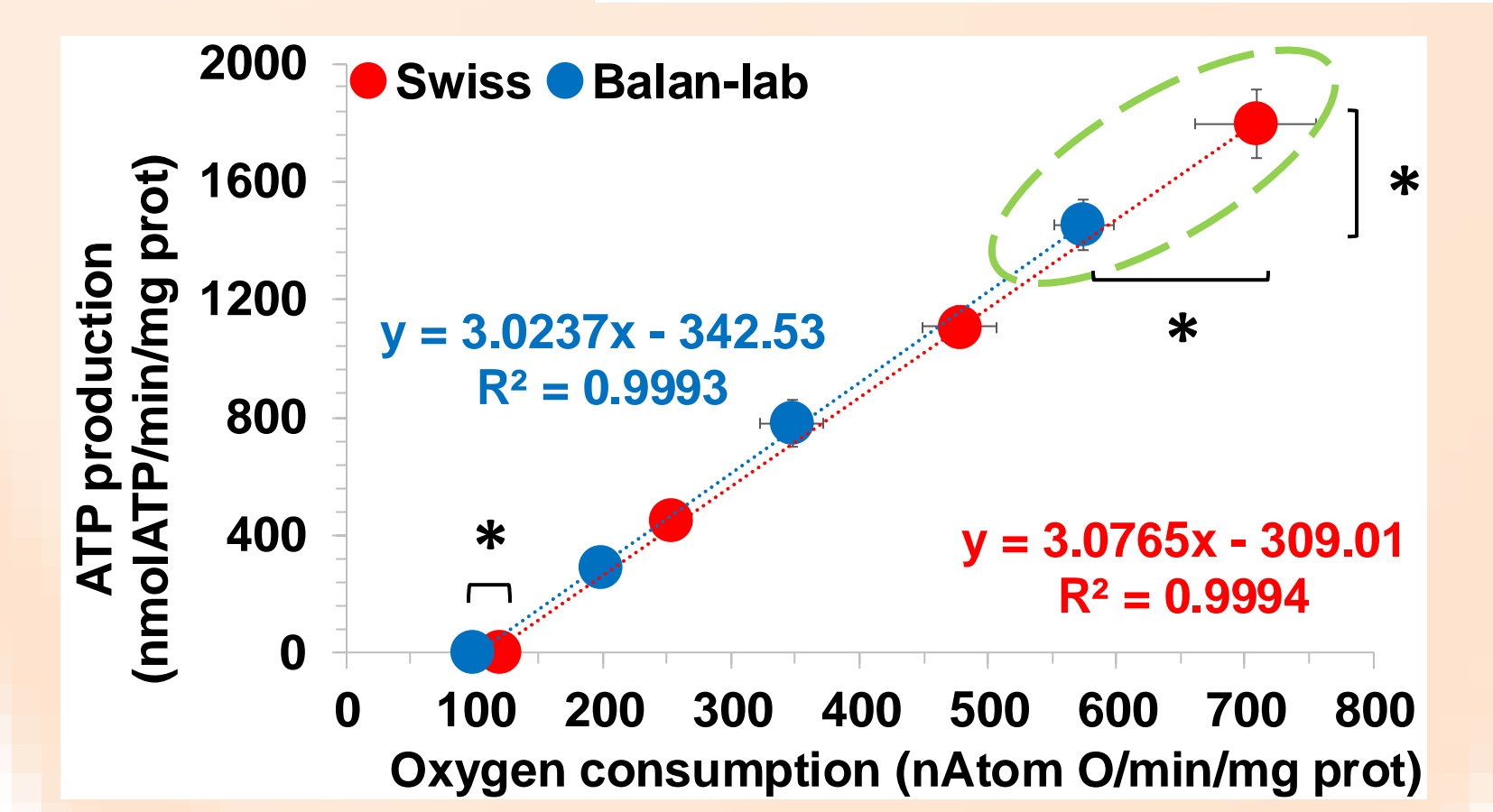
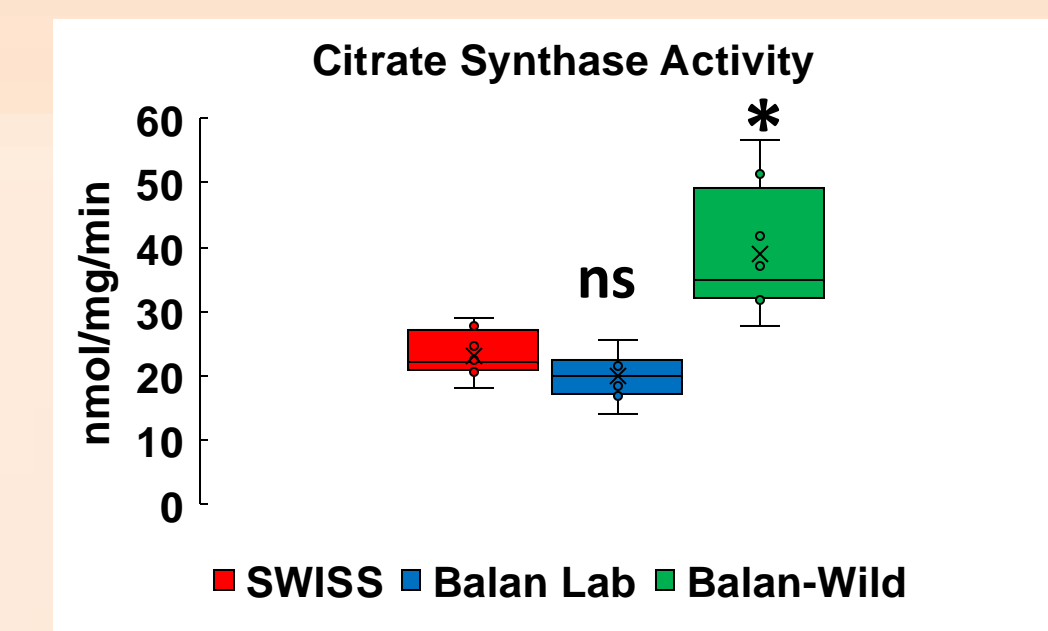
Oxygen consumption
Balan lab < Swiss



Full body metabolism



Mitochondrial bioenergetics



Take Home Message

Swiss ≠ ≠ ≠ ≠ Wild/lab Balan
→ ≠ genetic background
→ >100 years of lab breeding

Balan Wild ≠ Balan Lab
→ Pervasive effect of lab breeding
→ ONLY after 1 generation !

Oxygen consumption
Balan lab > Swiss
Energetic efficiency
Balan lab > Swiss
"Number/Volume"
Balan Wild > Balan lab = Swiss