Ile restriction improves glucose homeostasis

- We hypothesized that an ile restricted diet would induce metabolic health
- The branched-chain amino acids (BCAAs) are key mediators of metabolic health and

Ile restriction universally improves body composition

- Protein restriction (PR) promotes health and longevity in mice; lower consumption of
dietary protein is associated with increased health and longevity in humans.
- The branched-chain amino acids (BCAAs) are key mediators of metabolic health and

Ile in the diet drives distinct metabolic phenotypes

- Protein restriction (PR) promotes health and longevity in mice; lower consumption

Ile restriction increases energy expenditure in a sex- and strain-dependent manner

- With improvements in total body weight, fat mass, and metabolic phenotype (GT and
fasting blood glucose), an ile-restricted diet clearly increases overall health in mice.
- These body comp improvements occur in spite of the same or increased food
consumption in the low ile diet groups.
- Ile restriction results in shared and distinct metabolic phenotypes between sex and strain.
- Future analysis will also utilize hepatic transcriptomics, lipidomics, and metabolomics to
analyze similar and unique changes by ile in each sex and strain.
- Pinning down the mechanism underscoring the role of ile on metabolic health may lead to
potential dietary and pharmaceutical interventions for human use – perhaps in a precision
medicine context.

Conclusions & Future Directions

Acknowledgements