

BDR SEMINAR via Zoom

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Wednesday, September 16, 2020

13:00-14:00

Meeting URL will be announced on the event day by e-mail.

※This seminar is open only to BDR members.

Dietary control of longevity in *Drosophila melanogaster*

Summary

Diet has a profound effect on ageing. Various evolutionally-conserved longevity-associated pathways are identified, yet the molecular mechanism underlying diet-host interactions is not fully understood. Using *Drosophila melanogaster* as a model, we are studying how diet regulates ageing and lifespan. We demonstrated that organismal lifespan and intestinal healthspan could be extended by restriction of a single nutrient methionine, through a downstream metabolite S-adenosylmethionine. We also found that transient exposure to protein restriction or low-dose oxidants during development extends *Drosophila* lifespan. Interestingly, oxidants in the juvenile diet persistently remodel the gut microbiota, which augments the host metabolic and immune homeostasis and extends lifespan. Based on these findings, I would like to discuss how dietary manipulations modulate cellular and organismal responses regulating longevity.



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