February 25, 2023

To whom it may concern,

Please find enclosed our manuscript “Cross-sectional association between blood cholesterol and calcium levels in genetically diverse strains of mice.” by Cousineau *et al.* for your consideration at Nutrients.

In this work we describe a novel machine-learning based approach to understand variability in cholesterol levels in diversity outbred mice. As these are genetically diverse mice but with strong environmental and dietary control, this work shows an impressive relationship between serum calcium and cholesterol across diets, sexes and genotypes. We confirmed this finding in a separate cohort of recombinant inbred mice treated similarly. This work supports previous but less well controlled human studies suggesting similar links between cholesterol and calcium levels and suggest that serum calcium may be a novel and independent factor in understanding blood cholesterol and its association with cardiovascular disease.

This work is not currently under consideration at any other journal, but has been posted as a preprint as bioRxiv at https://doi.org/10.1101/2023.02.08.527123. All authors have approved of this manuscript and agree with its submission to Nutrients. As I am an associate editor for this journal, I would like to use my 2022 fee waiver for this article.

There are no experts that we would like to exclude from the review process, but we suggest the following reviewers might be helpful in assessing this work.

- Dr. Robert Williams (University of Tennessee Health Science Center)
- Dr. Abraham Palmer (University of California - Los Angeles)
- Dr. Megan Mulligan (University of Tennessee Health Science Center)
- Dr. Charles Farber (University of Virginia)
- Dr. Ian Reid (University of Auckland)
- Dr. John Walsh (Sir Charles Gairdner Hospital)
- Dr. Henriette Ejlsmark Svensson (Aarhus University)

Thank you for your consideration.

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