Cover Letter

From:

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Dear Editor:

I am pleased to submit a short communication entitled “Using EGFP-expressing Escherichia coli to assess mouse peritoneal macrophage phagocytosis” by Dr. Jun-yu Xiong, Dr. Yu Zhang and colleagues for consideration for publication in the *Journal of Visualized Experiments*. In this manuscript, we proposed a protocol and described an easier and rapid macrophage phagocytosis assay method. This technique is straightforward, reproducible and visualisable and can be completed within 2 hours.

The critical part of this method involves expressing EGFP in *Escherichia coli* (BL21DE) and making it as a phagocytosis marker. The advantages of this technique include its simple and straightforward steps, and phagocytosis can be measured by both flow cytometry and fluorescence microscopy. The EGFP-expressing *E. coli* are stable and display a strong fluorescence signal even after the macrophages are fixed with 4% (w/v) paraformaldehyde. The representative results showed that the phagocytosis capability of peritoneal macrophages from young mice (4-8 weeks old) is higher than that of macrophages from aged (12-month-old) mice.

We believe that this manuscript is appropriate for publication by *Journal of Visualized Experiments,* although not a novel and cutting-edge method, it's improved from the classic method, which is simple, reliable and economic enough for the majority laboratories to perform and study the innate immune system function.

This manuscript has been edited for proper English language, grammar, punctuation and spelling by qualified native English-speaking editors at American Journal Experts. This manuscript has not been published and is not under consideration for publication elsewhere. The authors have no conflicts of interest to disclose.

Thank you for your consideration!

Sincerely,

Prof. Jun-yu Xiong

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