

# Review of: "Broad Immunity of *Acinetobacter baumannii* lysogens: Implications for Phage Therapy Strategies"

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Potential competing interests: No potential competing interests to declare.

## Review Broad Immunity of *Acinetobacter baumannii* lysogens: Implications for Phage Therapy Strategies

This is a good pilot study. I agree that further studies with a larger number of AB and AB-phage samples are required, and preventing lysogen induction by determining the MOI clearance value before phage therapy, as proposed by this study, is a useful tool going forward. I deem this paper suitable for publication once suggestions are taken on board.

My suggestions are as follows: I would suggest the authors find an editor to help with the grammar, sentence, and paragraph structure of the document overall.

Abstract: Shorten the abstract, as there is repetition of some sentences. This will make the abstract more concise. E.g., a challenge in phage therapy is the induction of bacterial lysogens, which can become immune to the phage that infects them. Remove: Typically, lysogens exhibit immunity to the phage that infects them.

Introduction: Avoid redundancy, e.g., suggestion to reword: "Acinetobacter baumannii (AB) is a nosocomial pathogen causing infections in various systems of the body, particularly the respiratory tract, bloodstream, urinary tract, and skin (Peleg, 2008). I suggest using more up-to-date references. There are numerous current publications available that can be included when formulating your introduction and discussion.

Material and Methods: Please indicate how these isolates were cultured and what biochemical testing you performed to confirm the identity of the isolates. What media did you use to sub-culture the isolates, and which susceptibility assay did you use to reconfirm the susceptibility of your isolates? Please include the brand/supplier name of all reagents used.

MacConkey or nutrient agar plates, mixing bacterial cultures with 0.5% nutrient agar or MacConkey?

The supernatant from 10,000 g centrifugation was then processed again with the spot test and double-layer agar methods? This sounds ambiguous. Rewrite.

AB lysogens were isolated by exposing AB cultures to phages at sub-lethal MOI levels and incubated for 18 hours at 37°C. Please ensure that tenses are consistent.

Results and discussion: *Acinetobacter baumannii* is part of the ESCAPE group of nosocomial pathogens; it has the capacity to accumulate various mechanisms of resistance, leading to the emergence of strains that are resistant to nearly all commercially accessible antibiotics. Lysogens gaining resistance to multiple phages, as demonstrated in this article, is thus very concerning. These findings highlight a possible obstacle in phage therapy and stress the need for other strategies to circumvent lysogen induction and enhance phage therapy approaches. In conclusion, the use of ONLY virulent phages, bioengineered phages, and/or purified lytic proteins of phages as therapy against drug-resistant bacteria is still the best approach.

