Contribution ID: **97** Type: **Poster only**

Poster #97: Cryo-EM structure of the Escherichia coli siphophage Bas24

Monday, 5 October 2026 21:37 (1 minute)

Escherichia coli siphophage Bas24 is a previously uncharacterized bacteriophage belonging to the subfamily Queuovirinae. To determine its structure and describe its main structural features, the Bas24 virion was analysed using single-particle cryo–electron microscopy (cryo-EM). The virion structure and morphology were resolved, with the prolate capsid reconstructed to 3.07 Å resolution. The portal, neck, tail tube, baseplate, adapter, and lateral tail fibres were resolved to 2.90, 2.89, 2.98, 2.93, 3.60, and 4.28 Å resolution, respectively. The baseplate exhibits C3 symmetry and consists of three lateral tail fibres and a central tail fibre. The lateral tail fibres interact with the primary receptor, while the central tail fibre interacts with the secondary receptor, LamB. This study presents the first structural characterization of the Queuovirinae phage Bas24. The resolved virion architecture reveals a prolate capsid and a C3-symmetric baseplate with three lateral tail fibres and a central tail fibre, expanding current knowledge of siphophage diversity and providing a foundation for future functional and comparative studies

Reference #1

Reference #2

Reference #3

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Session Classification: Poster-Session