from phages infecting the problematic *A. baumannii* and when this specie is the target. The endolysin LysAB2 was able to reduce the optical density of a suspension of viable cells of *A. baumannii* (Lai et al. 2011). A higher activity was observed with the globular endolysin PlyF307, reducing the viability of exponentially growing cells by more than 3 log units and the viability of stationary-phase bacteria by more than 1 log unit. In addition, PlyF307 was able to reduce in 1.6 log units the number of *A. baumannii* cells in biofilm with a marked reduction in total biofilm biomass on catheters (Lood et al. 2015).

The globular *A. baumannii* phage endolysin ABgp46 also showed innate and specific antimicrobial activity against multidrug-resistant *A. baumannii* strains, reducing the cell counts up to 2 log units. The antibacterial activity was improved and broadened in the presence of citric and malic acid achieving reductions over 5 log units to values below the detection limit (Oliveira et al. 2016).

The T4 phage endolysin was the first described to present antimicrobial activity on Gram-negative cells without the use of OMP. Nevertheless, the antimicrobial effect was devoid of enzymatic activity and attributed to the positively charged amphipathic nature of the endolysin C-terminal (Düring et al. 1999).

An intrinsic and native destabilization of the OM of *P. aeruginosa* was found to be a characteristic of the *P. fluorescens* phage endolysin OBPgp279, which reduced the number of cell counts of that bacterium in 1 log unit in the absence of any OMP (Walmagh et al. 2012). A higher antimicrobial activity was observed with the *P. aeruginosa* phage endolysin LysPA26, which could kill up to 4 log units of an exponential growing suspension with 10^8 cells of *P. aeruginosa*. The antimicrobial activity was also effective against *E. coli* and *K. pneumoniae*. Moreover, LysPA26 could disrupt *P. aeruginosa* biofilms in a concentration-dependent manner (Guo et al. 2017).

The addition of the *Salmonella* Typhimurium phage endolysin SPN9CC to a suspension of viable *E. coli* cells reduced its number in 2 log units in just one hour. Under these same conditions, adding EDTA could not increase the antibacterial activity of the endolysin (Lim et al. 2014).

An endolysin from the Maltocin P28 phage tail-like bacteriocin (probably a VAL) produced by *Stenotrophomonas maltophilia*, called P28, presents intrinsic antibacterial activity not only on Gram-negative but also on Gram-positive bacteria. While reductions on viable cell numbers of Gram-positive strains were roughly 2 log units, the viable cell numbers of the Gram-negative strains *Klebsiella mobilis*, *Xanthomonas campestris*, and *S. flexneri* were remarkably reduced from 3 to 5 log units (Dong et al. 2015).

Reductions on the cell counts above 4 log units on highly resistant *Citrobacter freundii* and *Citrobacter koseri* isolates were obtained with the *Citrobacter* phage endolysin CfP1, without any OMP. This strong antibacterial activity could be improved by the addition of EDTA, which led to the eradication of some of the strains (Oliveira et al. 2016).