

## XIX CONGRESO DE LA SOCIEDAD ARGENTINA DE MICROBIOLOGÍA GENERAL

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## **CELL ENVELOPE BIOGENESIS IN ALPHAPROTEOBACTERIA**

Ángeles Zorreguieta

Fundación Instituto Leloir (FIL), IIBBA (CONICET-FIL)

*Contacto: invitado*

The proper assembly of the bacterial cell envelope is crucial for the interaction of pathogens and symbionts with their hosts and for their survival in hostile environments. In Gram-negative (diderm) bacteria, the biogenesis and homeostasis of the outer membrane (OM) require complex machineries that mediate the transport of phospholipids found on the inner leaflet of the OM and lipopolysaccharides, which form the lipid component of the outer leaflet of the OM. Additionally, the translocation of proteins (OMPs) with a  $\beta$ -barrel structure, as well as lipoproteins from the inner membrane into the OM, is essential. Although significant progress has been made in understanding the mechanisms involved in LPS transport, several questions remain unanswered regarding the insertion of OMPs and the homeostasis of phospholipids in the OM. It has been proposed that the TAM system, composed of the outer membrane protein TamA and the inner membrane component TamB, contributes to the correct translocation into the OM of a subset of OMPs with a  $\beta$ -barrel structure. However, our evidence using species from the Alphaproteobacteria group as models, along with findings from other authors in gammaproteobacteria, support the hypothesis that TAM plays a general role in the biogenesis of the outer membrane, specifically in phospholipid homeostasis, through a process coordinated with cell division.

Palabras clave: palabras\_clave