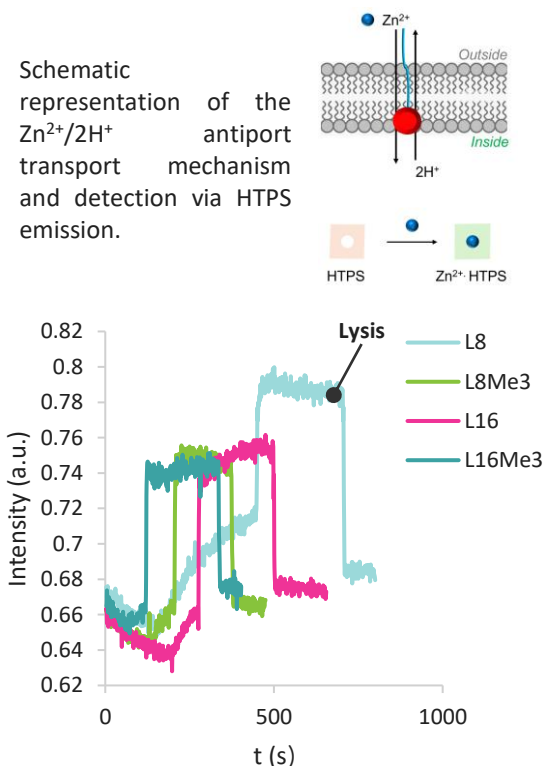


AIM OF THE PROJECT

The main objective of this work was to acquire and apply new techniques related to the transport of anions and cations by carrier ligands through model lipid membranes. In this context, the study focused on four ligands previously synthesized by the QSM-UV research group: L8, L8Me3, L16 and L16Me3, all of them with amphiphilic properties.

RESULTS

In a first experiment, the transport of chloride anions (Cl^-) was evaluated using liposomes encapsulated with lucigenin and the ligands L8 and L16, without observing transport activity. Given these results, the study was redirected toward the transport of Zn^{2+} cations, using liposomes with HPTS and the ligands L8, L8Me3, L16, and L16Me3. Although the system is not yet fully understood, preliminary data have revealed interesting behavior, opening new lines of research. In addition, a scientific collaboration was consolidated with the recipient group, with a view to future joint projects and knowledge exchange.



Change in HPTS emission, I_{rel} ($\lambda_{\text{ex}}=403/460$ nm, $\lambda_{\text{em}}=510$ nm) upon addition of ligands to POPC LUVs (48 μM) containing 1 mM HPTS, 100 mM internal and external NaCl and 10 mM external Zn^{2+} , buffered with 10 mM HEPES to pH 7.0. Lysis with Triton X-100 was used to calibrate the assay by dissipating the pH gradient.

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