

Supplementary Materials

# Modulatory Effects of Acidic pH and Membrane Potential on the Adsorption of pH-Sensitive Peptides to Anionic Lipid Membrane

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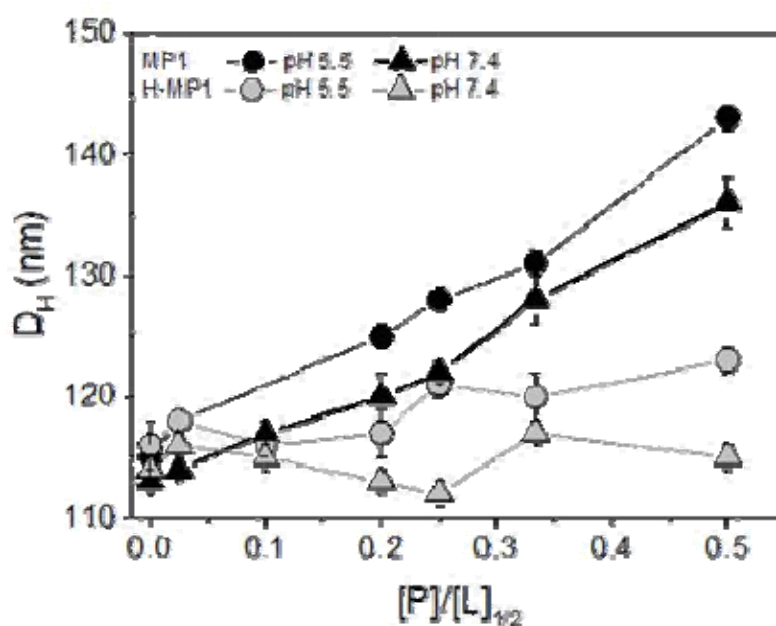
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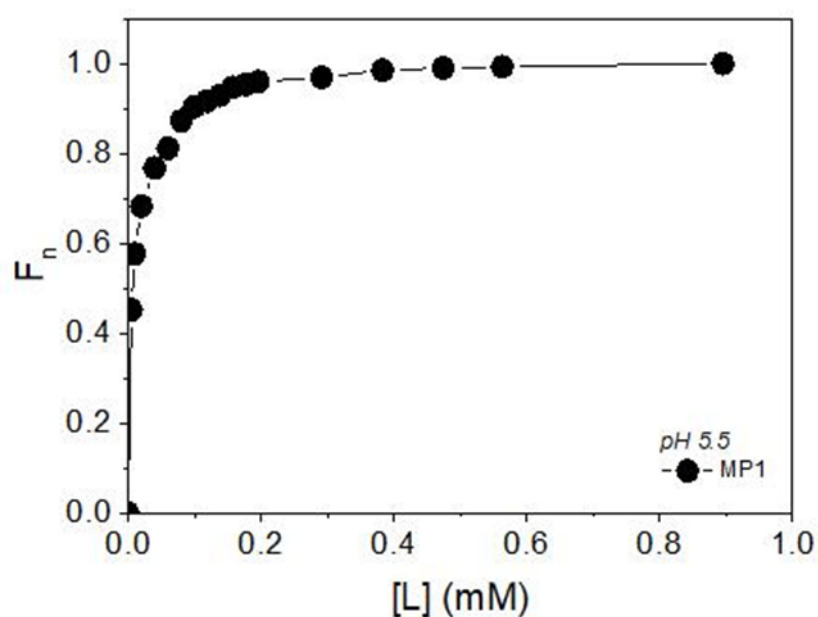
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## 1. Figure S1: Changes in 7POPC:3POPG LUVs' Average Diameter as a Function of a Half of Lipid Concentration Induced by the Peptides.



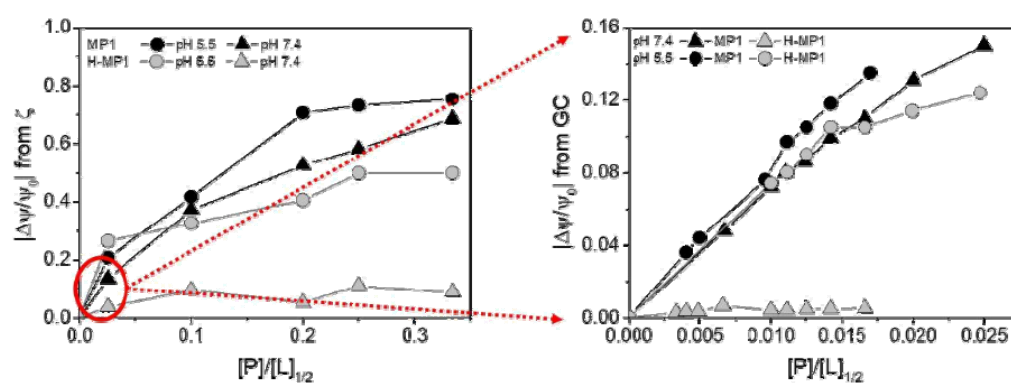
**Figure S1.** Changes in 7POPC:3POPG LUVs' average diameter as a function of a half of lipid concentration,  $[L]_{1/2}$ , for MP1 (dark symbols) and H-MP1 (gray symbols). Circles and triangles represent pH 5.5 and 7.4, respectively. All data correspond to the average ( $\pm$ SD) of three independent experiments.

## 2. Figure S2: Representative Fractional Fluorescence Intensity of TRP Residue of MP1.



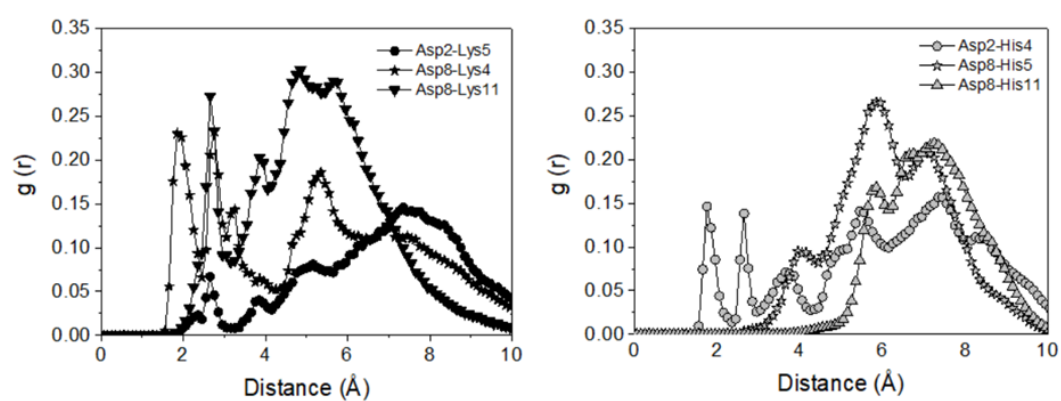
**Figure S2.** Representative fractional fluorescence intensity of TRP residue of a 2  $\mu$ M MP1 concentration at pH 5.5 in solution and in the presence of lipid as a function of a half of the lipid concentration,  $[L]_{1/2}$ .

### 3. Figure S3: Relative Changes in the Surface Potential of 7POPC:3POPG LUVs as a Function of the Peptide-to-Lipid Molar Ratio for Both Peptides.



**Figure S3.** Relative changes in the surface potential ( $\Delta\psi/\psi_0$ ) of 7POPC:3POPG LUVs as a function of the peptide-to-lipid molar ratio for MP1 (dark symbols) and H-MP1 (gray symbols). Circles and triangles represent pH 5.5 and 7.4, respectively.  $\Delta\psi/\psi_0$  values were calculated from zeta potential measurements (left) and from Gouy-Chapman theory (right).

### Figure S4: The Radial Distribution Function $g(r)$ of the Residues Pairs Lys-Asp and His-Asp.



**Figure S4.** The radial distribution function  $g(r)$  of the residues pairs (**left**) Asp-Lys in MP1 and (**right**) Asp-His in H-MP1 adsorbed on the bilayer at pH~5.5.