Plasma membranes are complex entities common to all living cells. The interactions between bioactive molecules and the lipids composing plasma membranes, are important for many processes, such as the bioavailability of certain drugs. As a general concept, understanding at the molecular level the mechanism by which bioactive molecules interact with cell membranes is therefore of fundamental importance.

In this presentation, some "in vitro" and "in silico" complementary biophysical techniques useful to obtain information on the specificity of lipids on a molecular scale will be exposed. The approach used will be illustrated by a study carried out on a cyclic lipopeptide, surfactin, which has properties that elicit the plant's defense mechanisms.