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New data obtained on liposomes employed in drug encapsulation and

(*Nanowerk News*) University of Granada scientists and the Spanish Higher Institu Research (CSIC) have made significant progress in understanding lipid membran extensively employed in the development of cosmetic and drug products, and whi application in the field of nanotechnology.

Phospholipid vesicles (liposomes) are colloidal systems that arise considerable in pharmaceutical, cosmetic and food industry, since they are biocompatible in prote etc encapsulation. Further, from a scientific perspective, liposomes are considere cell membranes that have been implemented in the study of biological transport p membranes, as well as in the study of aggregation processes induced by biologic

To develop products of biotechnological interest, understanding thoroughly the el these membranes is necessary. This was the purpose of Alberto Martín Molina ar Beas, from the Department of Applied Physics of the University of Granada, and Instituto de Ciencias de Materiales in Barcelona (CSIC), authors of a study recen journal *Physical Review Letters* (Vol. 104; pp 168103 (2010). 104, pp 168103 (20

Inverting its Electrostatic Charge

This study discloses why certain lipid membranes can invert their surface electros why these membranes have negative charge, but they can function as positive ch specific circumstances. This type of membranes are extensively employed in gen

Such behaviour is due to the fact that the interphase of these membranes in wate and highly hydrated. "Such environment attracts small objects with significant ele membranes tend to gather in large groups acquiring electric charge", researchers of this study, electrophoresis experiments and computer-based simulations were were made using a supercomputer belonging to the Spanish Supercomputing Ce required a long time and high calculation performance.

After a sustained period of several months, researchers obtained revealing result which allowed them to prepare a new inversion mechanism for their experimental mechanism is as follows: phospholipid membranes have the ability to absorb lant go from being associated to the solution water molecules to associating to the me

Source: *University of Granada*