

**PREPARATION AND PHYSICOCHEMICAL CHARACTERIZATION OF
NOVEL POLYGLYCIDOL STABILIZED PHOSPHOLIPID NANODISCS
DESIGNED FOR IN VIVO INTEGRAL PROTEINS DELIVERY**

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Phospholipid nanodiscs are composed of phospholipid molecules, self-organized in open planar bilayers, similar to the cell membrane. Such a structure provides optimal conditions for transmembrane proteins reconstitution and study. In order to achieve structural and colloidal stability, nanodiscs are modified with large hydrophilic polymers, introduced as polymer-lipid conjugates, mainly located at the hydrophobic edges of the bilayer. In the present study we discuss the preparation method and the physicochemical properties of phospholipid nanodiscs, sterically stabilized by polyglycidol derivatized lipids and evaluated by light scattering techniques, in vitro fusion assay, and protein binding experiments. Atomic force microscopy was used in order to visualize the structures. Their cytotoxicity against a MDCK II cell line was studied as well.