

Site-Specific *in vivo* Targeting of Magnetoliposomes Using Externally Applied Magnetic Field

Melánia Babincová^{a,*}, Veronika Altanerová^b, Miloš Lampert^c, Čestmír Altaner^b, Eva Machová^d, Miron Šrámka^c and Peter Babinec^a

^a Department of Biophysics, Comenius University, Mlynská dolina F1, 842 15 Bratislava, Slovakia. Fax: +(421)-7-654-25-882. E-mail: babincova@fmph.uniba.sk

^b Cancer Research Institute, Slovak Academy of Sciences, 833 91 Bratislava, Slovakia

^c Department of Neurosurgery, Derer's Faculty Hospital, Limbová 5, Bratislava, Slovakia

^d Institute of Chemistry, Slovak Academy of Sciences, Dúbravská 9, Bratislava, Slovakia

* Author for correspondence and reprint request

Z. Naturforsch. **55c**, 278–281 (2000); received October 20/November 22, 1999

Magnetoliposomes, Drug Targeting, Kidney Cancer

Human serum albumin labeled with technetium-99m was encapsulated together with magnetite particles into phosphatidylcholine/cholesterol liposomes. In order to investigate the stability of this complex and its ability to be used for magnetic drug targeting, the *in-vivo* distribution after intravenous administration in rats was estimated. For *in-vivo* targeting an SmCo permanent magnet with intensity ~ 0.35 T was attached near the right kidney. Difference between the relative radioactivity in the magnetically targeted right kidney ($25.92 \pm 5.84\%$) and non-targeted left kidney ($0.93 \pm 0.05\%$) is sufficiently high for relevant clinical applications.