Liposomes are used to encapsulate pharmacologically active compounds for drug delivery. In order to improve the circulatory time of liposomes, compounds can be conjugated with PEG. PEGylated liposomes show a decreased uptake by MPS cells in the liver and are more efficiently delivered into the circulation. The liposome composition is important to accurately determine the liposome's molecular composition, because it may be composed of a variety of different lipids to modulate their properties. It is important to accurately determine their molecular composition.

**RESULTS**

Quantification of DSPE/DOPC liposomes

A calibration curve of authentic standards (10–500 pg/mL) was used for the quantitation of DSPE/DOPC liposomes. The stock solution of dispersed liposomes was diluted stepwise to yield signal intensities below 1e6 cps. Peak area and peak height intensities were measured using the MultiQuant® 2.1 software. Quantitation of DSPE/DOPC lipids was performed as described above with regression coefficients of 0.9995 and 0.9998 for DOPG and DOPC, respectively.

**DISCUSSION**

Deflection of ITM transfer for unfunctionalised liposomes is straightforward. However, it has to be assumed that the transfer of the PEGylated conjugates depends on the liposome composition and the chosen reagents. The advantage of this method is the possibility to optimize the conditions to achieve the best results. The disadvantage is the need for an extensive PEG signal spread that allows an efficient quantification of the lipids. It has to be taken into account that the PEG signal spread is strongly dependent on the liposome composition and the used MS/MS conditions. As expected the MS/MS spectra show a strong signal at m/z 607.6, but also signals with higher m/z ratios than 607.6 as expected. The signals at m/z 607.6 are due to the presence of the corresponding fragment ions m/z 607.6. For the quantitation of DSPE/DOPC lipids, the charge states were verified with extensive PEGylated lipids. For these compounds the signals are fully overlapped and the choice of a sensitive transition might be necessary to evaluate the lipids’ fragmentation for both polarities to determine a sensitive transition. The resulting constructs have an increased molecular weight which entails a stronger intermolecular attractive interaction with the polar headgroups due to increased steric repulsion.

**REFERENCES**

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