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Dr Rita Carrotta

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Light Scattering as an Easy Tool to Measure Vesicles Weight Concentration

Giulia Di Prima [2], Fabio Librizzi [1], Rita Carrotta [1]

[1] Institute of Biophysics, CNR, Palermo, Italy; [2] Stebicef, University of Palermo, Italy

Over the last decades, unilamellar liposomes have emerged as promising vectors for drug delivery and as effective natural membrane models, for studying biophysical and biological processes or biotechnological issues. For all applications, knowing their concentration after preparation is crucial.

A new assay to determine weight concentration is presented, based on a suitable analysis of light scattering intensity from liposome dispersions. The method is born and tested for extrusion preparations, a common method to create unilamellar liposomes, but it can be easily extended to other preparation methods. It is precise, easy, fast, non-destructive and uses a tiny amount of sample. Furthermore, the scattering intensity can be measured indifferently at different angles, or even by using the elastic band obtained from a standard spectrofluorimeter. To validate the method, the measured concentrations of vesicles of different matrix compositions and sizes are compared to the data obtained by the standard Stewart assay.