



Protein Concentration Analysis

Protein concentration determination is often the first step when analysing a biotherapeutic protein sample. This must be carried out on a large number of samples prior to performing the various physicochemical analysis involved in protein characterization or protein structural analysis, since many assays depend on this knowledge before testing can begin. Spectrophotometry is a well-established technique for this analysis. It involves passing light at a specified wavelength through the sample and measuring the absorbance. The wavelength commonly used for this process is 280 nm, due to the strong absorbance of aromatic amino acids at this region of the UV spectrum. Hence the analysis is commonly referred to as 'A280 analysis'. The absorbance is related to the concentration using the Beer-Lambert law:

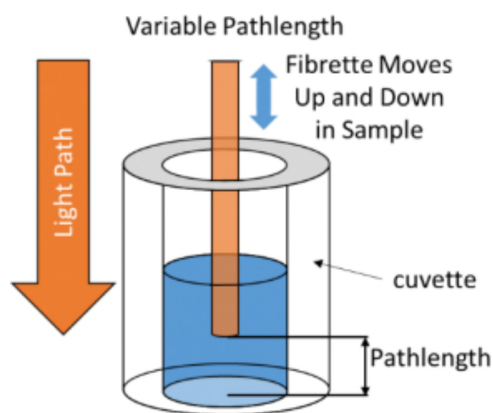
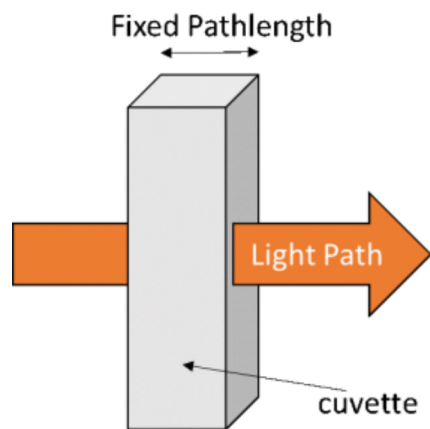
$$A = \epsilon CL$$

Where A = absorbance, ϵ = extinction coefficient, C = concentration and L = pathlength

When using a fixed pathlength spectrophotometer careful dilutions of samples are often required in order to bring the samples concentration to within the linear range of the instrument. This can be time consuming and any errors associated with the dilutions will lead to errors in the final concentration calculated for the sample.

SoloVPE Analysis

A solution to these problems is to use a variable pathlength instrument, such as the SoloVPE (C Technologies, Inc.) The SoloVPE alters the pathlength component of the Beer-Lambert law. By altering the pathlength instead of the concentration, dilutions are not normally required. The SoloVPE assay developed at Sartorius Stedim BioOutsource is accurate and precise. Its inherent speed means that a large number of samples can be analysed in a short amount of time, when compared to using a fixed path length spectrophotometer. Another benefit of using the SoloVPE instrument is that the sample is recoverable after analysis; useful when only a small amount of sample is available and a number of different tests are required.



Contact our scientists today to discuss your concentration analysis requirements.

Meet Our Expert



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