Abstract for CPSA

Practical Aspects in Quantitating Oligonucleotides by LC/MS

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Nucleic acid based therapeutics such as oligonucleotides are among the more novel and most promising therapeutics being developed today. In particular, oligonucleotides such as siRNA's, RNAi's, microRNA's and aptamers, present unique challenges for those seeking to quantitate them in biological matrices. Strategies such as PEGylation to extend absorption half-life further increase assay complexity, especially as scientists seek lower levels of quantitation of these therapeutics.

Mass spectrometry, in particular LC/MS, can provide solutions for their measurement provided one is aware of and can navigate around potential landmines. The purpose of this workshop is to generate a discussion about current state-of-the-art techniques for quantitation of oligonucleotides. The workshop is intended to be highly interactive with the attendees, focusing on practical considerations that are important for successful quantitation of oligonucleotides. Two short presentations discussing recent work by the sponsors will be given. One of the presentations will summarize results from experiments with a supercharging reagent, assessing its effects on method sensitivity; the other presentation will focus on sample preparation and extraction techniques for oligonucleotides in biological matrices such as plasma and liver.

Attendees will come away with a better understanding of the issues surrounding quantitation of oligonucleotides and will be better prepared to face these challenges when confronted with the problem of developing robust and sensitive methods for oligonucleotide quantitation.