Intelligent Use of Retention Time for Higher Order Multiple Reaction Monitoring Multiplexing – *Scheduled MRM™ Algorithm*

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The utility of Multiple Reaction Monitoring (MRM) on triple quadrupole based MS systems for biomarker verification/validation studies is currently an active area of investigation, driven by the well known sensitivity and selectivity attributes of this type of MS approach. As more extensive protein panels need to be monitored in a targeted way across multiple samples, higher MRM multiplexing is becoming essential for throughput. The challenges of assay development and running these large scale studies are becoming better understood, the need for rapid assay development, the need for higher multiplexing and the need for more robust assays are some of the key challenges.

In this work, the unique combination of triple quadrupole and ion trapping capabilities of the hybrid triple quadrupole - linear ion trap mass spectrometer (QTRAP® System) has been utilized to create 100s of high quality, specific MRM transitions for multiple peptides to many plasma proteins. Iterative analysis provided rapid refinement of MRM parameters without requiring synthetic peptides. Intelligent use of retention time using new acquisition software enables many more MRM transitions to be included in a single acquisition method, while maintaining good peak area reproducibility. The analytical reproducibility of the MRM method developed was found to be extremely high, even in plasma, with the majority of peptides being measured with %CV<10.

Obesidómica: caracterización del secretoma del tejido adiposo de diferentes localizaciones anatómicas

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En los últimos años el tejido adiposo ha pasado de considerarse un órgano inerte con función exclusiva de almacén y movilización de ácidos grasos a calificarse como el órgano endocrino más grande y dinámico del cuerpo. Desde el descubrimiento de la leptina como principal hormona reguladora secretada por el tejido adiposo, han ido surgiendo más moléculas llamadas adipokinas, implicadas en diferentes aspectos de la regulación del metabolismo. Sin embargo, las adipokinas descubiertas hasta ahora no llegan a explicar convincentemente los complejos mecanismos reguladores de la homeostasis energética ni el desarrollo de los procesos asociados a la obesidad u otros desórdenes alimentarios. Bajo