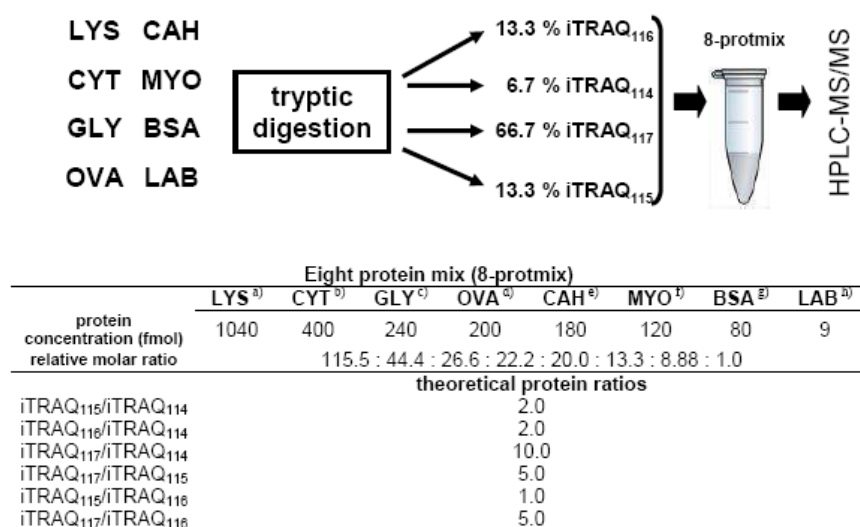


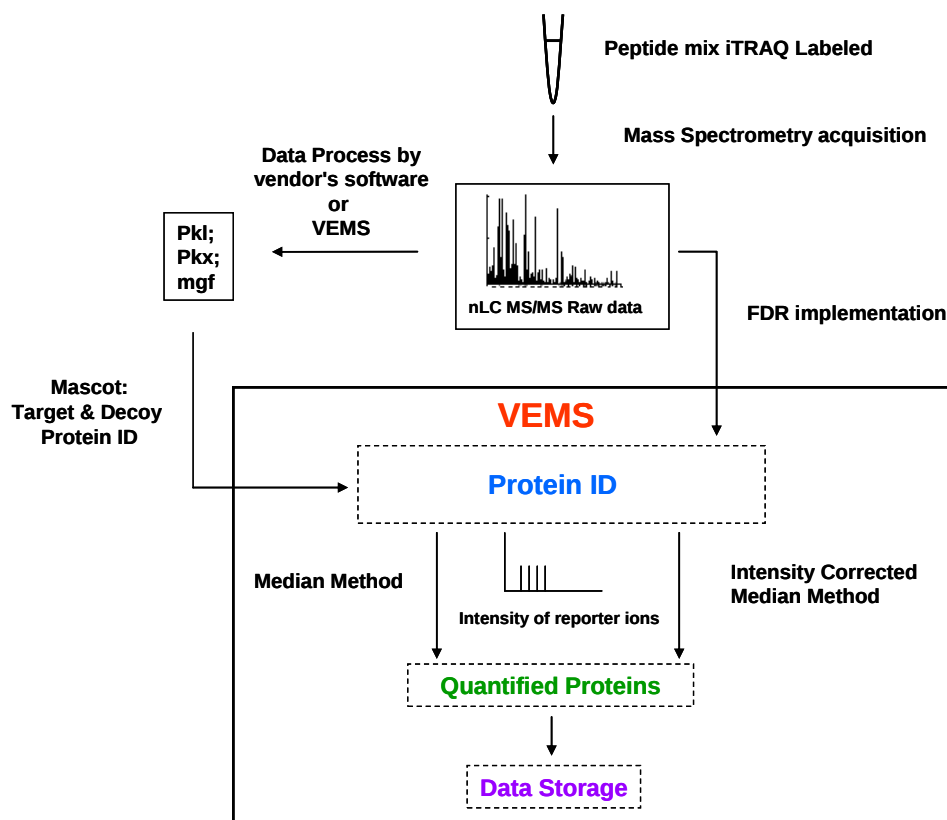
Advances in protein quantitation using iTRAQ labeling

Proteomics Platform group at CIC bioGUNE has recently published two papers focused on the methodological aspects of protein quantitation by liquid chromatography coupled to tandem mass spectrometry, using iTRAQ labeling.

The work by Casado-Vela *et al.*, (Proteomics, 2010) in collaboration with members of Universidad de Alicante and Universidad Pompeu Fabre, was focused on the design of new standards to improve the relative quantification of proteins by iTRAQ. This work was one of the first ones carried out in an Orbitrap type of mass spectrometer, with particular emphasis on the high dynamic range of different protein concentrations and high fold changes. The proposed protein mixtures provide the proteomics community with new standards to be used in assessing the performance of iTRAQ based experiments.



The second paper, by Rodríguez-Suárez *et al.* (Proteomics, 2010), completed in collaboration with Dr. Matthiesen from the University of Porto and the Metabolomics and Bioinformatics Unit at CIC bioGUNE, covers some methodological and bioinformatics aspects of iTRAQ quantitation. The newly developed workflow has been integrated into VEMS (Virtual Expert in Mass Spectrometry) bioinformatics tool which allows the database-dependent search, quantitation and result storage. This freely available bioinformatics tool should be very useful for proteomics laboratories interested in using iTRAQ for protein quantitation, regardless of the mass spectrometer brand used.



Casado-Vela J, Martínez-Esteso MJ, Rodríguez E, Borrás E, Elortza F, Bru-Martínez R. (2010). iTRAQ-based quantitative analysis of protein mixtures with large fold change and dynamic range. *Proteomics*. 2010 Jan;10(2):343-7

Rodríguez-Suárez E, Gubb E, Alzueta IF, Falcón-Pérez JM, Amorim A, Elortza F, Matthiesen R. (2010). Virtual Expert Mass Spectrometrists: iTRAQ tool for database-dependent search, quantitation and result storage. *Proteomics*. 2010 Feb 5. [Epub ahead of print]

Abstracts of the above papers are available at:

Casado-Vela *et al.*: <http://www3.interscience.wiley.com/journal/123220989/abstract>

Rodríguez-Suárez *et al.*:

<http://www3.interscience.wiley.com/journal/123275375/abstract?CRETRY=1&SRETRY=0>