

# NEWS:

## **Plant metabolism: Quantitative proteomics and phosphoproteomics to understand effects of environmental stress.**

Understanding the molecular mechanisms of stress tolerance to environmental change provides valuable information for effective crop engineering and breeding, in order to sustain plant growth, development and agriculture productivity.

Clearly, genomic or transcriptomic information is of poor value to understand the purpose.

Relative quantification of proteins and phosphoproteins clearly exhibit level changes under stress and provides insight into specific response mechanisms underlying stress tolerance. Reversible protein phosphorylation regulates a wide range of cellular processes such as transmembrane signaling, intracellular amplification of signals, and cell-cycle control.

**We give here the example of salt stress on sugar beet (1), but we currently use such methods to perfect molecular productions in food, cosmetic or pharma ingredient industries.**

(1) Yu B, 2016. Quantitative proteomics and phosphoproteomics of sugar beet monosomic addition line M14 in response to salt stress. J Proteomics. 2016 Jun 30;143:286-97 <http://www.ncbi.nlm.nih.gov/pubmed/27233743>

**With Phylogene, you can also characterize and understand the effects in plants.**

***High-resolution nano LC-MS/MS quantitative proteomics, phosphoproteomics and other PTMs, and CORAVALID™ data processing: The efficient tool for discovery***

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