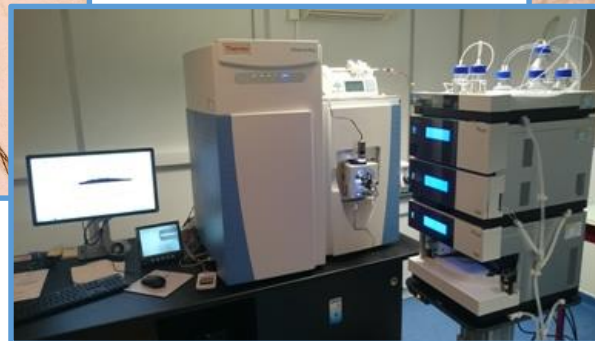
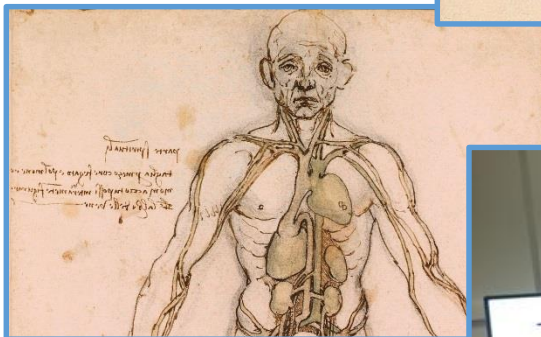
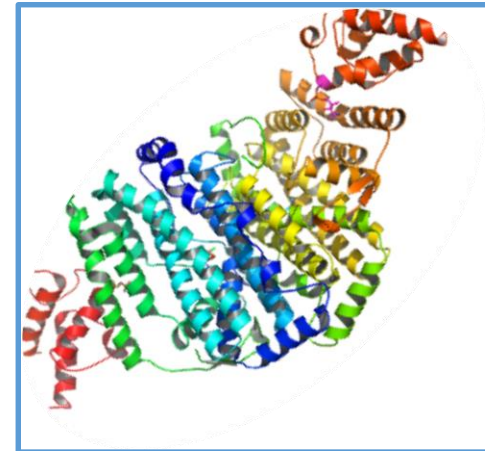
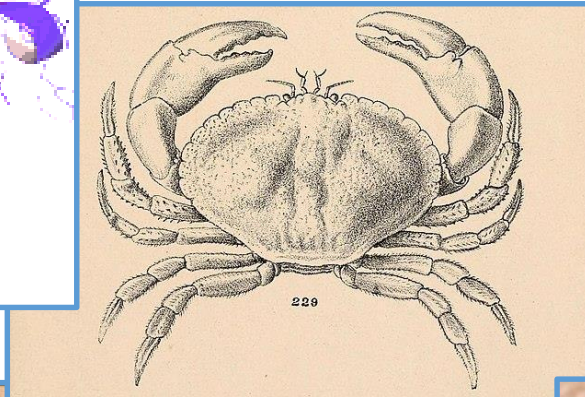
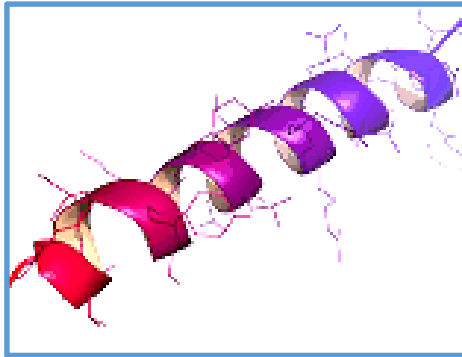


# HIGHRES PROTEOMICS FOR DISCOVERY SERVICES



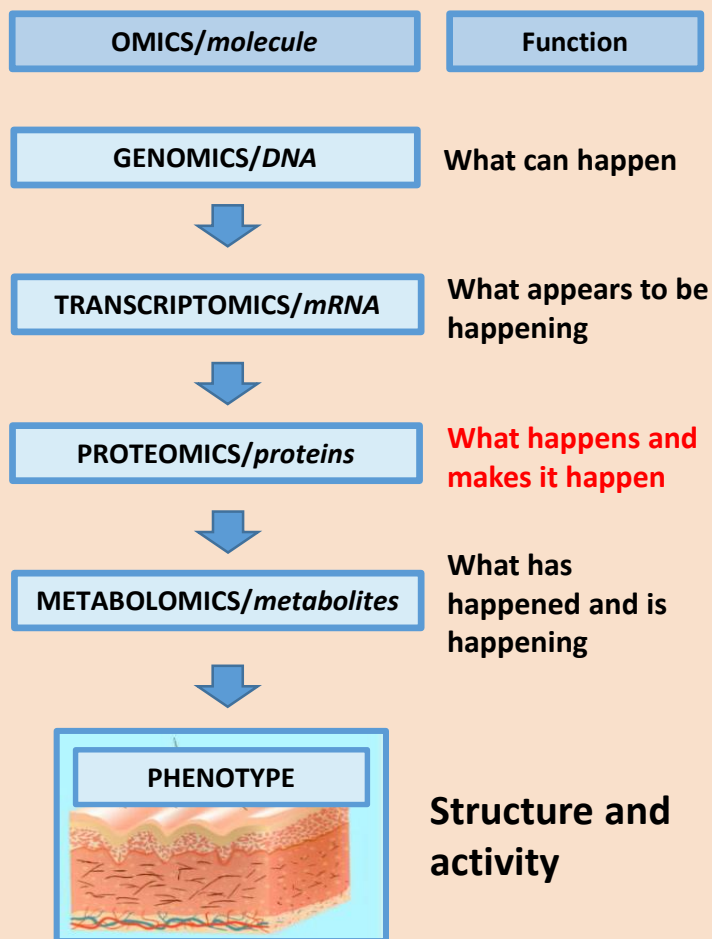
With **PHYLOGENE**,  
It's time to think out of the box...



## ABOUT PHYLOGENE

A 20 years old ISO 17025 accredited servicing and R&D lab in omics.

## OMICS CASCADE

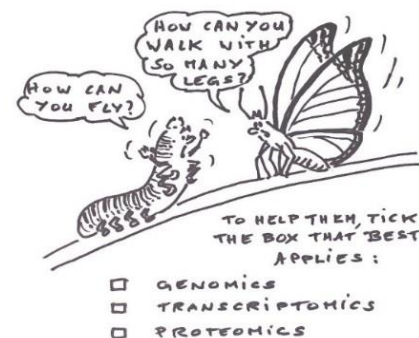


## WHY WORK WITH PHYLOGENE?

- Extended experience of omics data processing,
- Expertise in proteomics, metaproteomics and bioinformatics,
- Customized prices and time to results optimization,
- Network of trained CROs,
- Integrated process from sample to result delivery.

## WHY USE PROTEOMICS?

- Proteins are directly in charge of cell functions and structures
- Proteomics is very close to phenotype
- Proteomics is based on translated genomics databases, metabolomics is not
- Mass spectrometry nanoLC-MS/MS proteomics** allows detecting thousands of proteins



### *The Ever Expanding Scope of Electrospray Mass Spectrometry -A 30 Year Journey*

*“There are huge opportunities for mass spectrometry in clinical applications, such as plasma proteome profiling for precision medicine or cancer tissue Proteomics.”*

*Mann M. 2019 Nat Commun.*

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## EXPERTISE

**-Proteomics** comparative study of proteomes by relative quantification with nanoLC-MS/MS « shotgun proteomics » and bioinformatics and biostatistics dedicated data processing with CORAVALID™

**-Biomarkers discovery** in a untargeted way followed by targeted **multi-biomarkers** validation

**-Post Translational modifications:** phosphorylations, oxidations...

**-Phosphoproteomics** comparative study of phosphosites to explain regulations not associated with proteins abundance.

**-Oxidation PTMs** - RedOxMics™ to understand the stresses and including sensitive oxidation sites analysis

**-Metabolomics** in a targeted way after proteomics untargeted discovery and pathway analysis, or in untargeted way

**-And also:** Peptide mapping, host cell proteins characterization, histones PTMs...

**CORAVALID™** : Complementary analysis of relative quantification data in the comparison of two proteomic conditions.

### **Enrichment analysis.**

**CORAVALID** is a data complementary analysis, highlighting through KEGG, WIKIPATHWAYS and others: **biological processes, molecular functions, cellular components and signaling and metabolic pathways related to analyzed proteins** significantly regulated from relative quantitation proteomic experiments.

Associations are validated using statistical tests such as Fisher's exact test and manual curation.

### **Synthesis and interpretation.**

**CORAVALID** makes the **synthesis and interpretation** of these results and informations associated with each protein, in order to highlight the phenomena and mechanisms distinguishing the two compared samples sets. This synthesis makes it possible to **highlight the major biological functions impacted**.

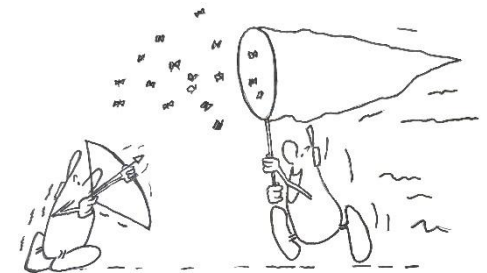
### **Biological meanings - Claims proposal.**

**Major biological impacted functions** are processed in order to determine if they are positively or negatively regulated. This in-depth analysis will make it possible to **determine the biological significance of the results obtained, to determine phenotypes, and to propose claims**.

### **Reproducible Quantification of Cancer-Associated Proteins in Body Fluids Using Targeted Proteomics**

*"...we demonstrate that these SRM assays allow reproducible quantification by monitoring 34 biomarker candidates across 83 patient plasma samples"*

*Hüttenhain R. and al. 2012 Sci. Transl. Med.*



*Targeted vs untargeted*

