UNIVERSITÀ DEGLI STUDI DI MILANO

SELEZIONE PUBBLICA, PER TITOLI ED ESAMI, A N. 1 POSTO DI CATEGORIA C; AREA TECNICA, TECNICO-SCIENTIFICA ED ELABORAZIONE DATI, CON RAPPORTO DI LAVORO SUBORDINATO A TEMPO DETERMINATO PRESSO L' UNIVERSITÀ DEGLI STUDI DI MILANO; DIREZIONE SERVIZI PER LA RICERCA - UFFICIO UNITECH - PIATTAFORME TECNOLOGICHE DI ATENEO - CODICE 22319

La Commissione giudicatrice della selezione, nominata con Determina Direttoriale n. 12468 del 25/07/2023, composta da:

Prof. Armando Negri	Presidente
Prof.ssa Emma Selina Rosa De Fabiani	Componente
Dott.ssa Manuela Fontana	Componente
Sig.ra Rosangela Salvo	Segretaria

comunica i quesiti relativi alla prova orale:

GRUPPO DI QUESITI N. 1
1) Principi della separazione cromatografica utilizzata in HPLC per analisi proteomiche medinte approccio LC-ESI-MS/MS

Brano in inglese: Metabolomics is the scientific study of chemical processes involving metabolites, the small molecule substrates, intermediates, and products of cell metabolism. Specifically, metabolomics is the "systematic study of the unique chemical fingerprints that specific cellular processes leave behind", the study of their small-molecule metabolite profiles.[1] The metabolome represents the complete set of metabolites in a biological cell, tissue, organ, or organism, which are the end products of cellular processes.[2] Messenger RNA (mRNA), gene expression data, and proteomic analyses reveal the set of gene products being produced in the cell, data that represents one aspect of cellular function. Conversely, metabolic profiling can give an instantaneous snapshot of the physiology of that cell,[3] and thus, metabolomics provides a direct "functional readout of the physiological state" of an organism.[4] There are indeed quantifiable correlations between the metabolome and the other cellular ensembles (genome, transcriptome, proteome, and lipidome), which can be used to predict metabolite abundances in biological samples from, for example mRNA abundances.[5] One of the ultimate challenges of systems biology is to integrate metabolomics with all other -omics information to provide a better understanding of cellular biology.

GRUPPO DI QUESITI N. 2
1) Approccio analitico targeted o untargeted: quali sono le principali differenze e quali le strumentazioni

Brano in inglese: Proteomics is the large-scale study of proteins. Proteins are vital parts of living organisms, with many functions such as the formation of structural fibers of muscle tissue, enzymatic digestion of food, or synthesis and replication of DNA. In addition, other kinds of proteins include antibodies that protect an organism from infection, and hormones that send important signals throughout the body.The proteome is the entire set of proteins produced or modified by an organism or system. Proteomics enables the identification of ever-increasing numbers of proteins. This varies with time and distinct requirements, or stresses, that a cell or organism undergoes.

Milano, 5 ottobre 2023

La Commissione

Prof. Armando Negri - Presidente

Prof.ssa Emma Selina Rosa De Fabiani - Componente

Dott.ssa Manuela Fontana - Componente

Sig.ra Rosangela Salvo - Segretaria