

Acetylomics is the study of acetylation, a post-translational modification of proteins that involves the addition of an acetyl group (-COCH<sub>3</sub>) to lysine residues on a target protein. Acetylation can alter the activity, localization, and stability of the target protein, and plays a critical role in regulating a variety of cellular processes, including gene expression, DNA repair, and cellular signaling.

Acetylomics seeks to identify and quantify changes in the acetylation status of proteins in cells, tissues, or organisms under different conditions, such as in response to stimuli or during disease development. This information can provide insights into signaling pathways and cellular processes, and can inform the development of new diagnostic and therapeutic strategies.

Acetylomic studies are typically performed using mass spectrometry-based techniques, which allow for the identification and quantification of thousands of acetylated peptides in a single experiment. This information can be integrated with other omics data, such as transcriptomics and proteomics, to provide a more comprehensive understanding of cellular processes.

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