Protein Identification Service Overview



Service Description

Protein identification analysis mainly includes gel spot identification and gel band identification, which can be used when it is necessary to identify a specific range of proteins, or when there are only a few kinds of proteins in a sample.

Gel spot identification is mainly used for MS identification of the designated gel spot in two-dimensional (2D) electrophoresis gel. Firstly, the gel spot sample is decolorized and enzymolysised, and then detected by LC-MS/MS. Using the obtained mass spectra, the target protein can then be identified via cross referencing established databases.

Gel band identification is mainly used for MS identification of a protein solution in which protein type is relatively small (dozens to 100) or the designated band in sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE). Firstly, the gel band or protein solution samples are enzymolysised, and then detected by LC-MS/MS. Using the obtained mass spectra, the proteins are then identified via cross referencing established databases.







Zhan X Q, et al., How many proteins can be identified in a 2DE gel spot within an analysis of a complex human cancer tissue proteome, (2018)

BGI has extensive experience in the field of Protein Identification with reliable workflows using nano LC-MS/MS and a bioinformatics infrastructure that is second to none.

Research Applications

Identification of target proteins
Identification of protein mixture
Protein-protein interaction studies

Protein Identification Analysis Workflow

Gel spot identification:



Bioinformatics Analysis Workflow

Standard:



Customized Solutions:

Quantitative analysis of protein relative abundance in a single sample (iBAQ)

Examples of Protein Function Annotation



Protein COG Annotation





Protein KOG Annotation

General Sample Requirements

PRODUCT SAMPLE	GEL SPOT IDENTIFICATION	GEL BAND IDENTIFICATION	MODIFICATION SITE IDENTIFICATION
Coomassive or silver stained gel spot/band	Visible spot	Protein ≥ 1 µg	Protein ≥ 1 µg. Projects that need enrichment is not accepted.
Single protein (protein solution purified after IP or CO-IP)	/	≥ 5 µg, ≥ 0.5 µg/µL	$\ge 10 \ \mu$ g, $\ge 0.5 \ \mu$ g/ μ L. If enrichment is required, the amount of sample sent needs to be increased by 3 times.

To Learn More

To learn how your research can benefit from BGI's extensive experience in Protein Identification, visit www.bgi.com, write to us via info@bgi.com or contact your local BGI office.

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