

2D Gel Electrophoresis 7cms

2D Gel Electrophoresis Service

Basic Introduction

NTHRYS BIOTECH LABS introduces our specialized **2D Gel Electrophoresis** service, designed for the sophisticated analysis of proteins. This powerful technique is pivotal for separating proteins in complex mixtures based on their isoelectric points and molecular weights, enabling detailed protein identification, quantification, and post-translational modification analysis.

Scientific Principle

Our 2D Gel Electrophoresis service combines two-dimensional polyacrylamide gel electrophoresis for a comprehensive protein analysis. The principle involves two sequential steps:

1. **First Dimension - Isoelectric Focusing (IEF):** Proteins are separated based on their isoelectric points (pI). Each protein migrates until it reaches a region in the gel where the pH equals its pI, stopping its migration.
2. **Second Dimension - SDS-PAGE:** Following IEF, the proteins are subjected to SDS-PAGE, where they are separated based on their molecular weight. This step involves running the proteins perpendicular to the first dimension, resulting in a highly resolved 2D protein map.

This approach allows for the separation of thousands of proteins simultaneously, making it an invaluable tool for proteomics research.

Applications in Research

The 2D Gel Electrophoresis service is essential for various research methodologies, including:

1. Proteome analysis in disease states for biomarker discovery.
2. Comparative proteomics to understand differential protein expression.
3. Identification of post-translational modifications.

4. Drug target identification and validation.
5. Quality control in biopharmaceuticals.

Fields of Science Benefiting from Our Service

Our 2D Gel Electrophoresis service is beneficial across a variety of scientific fields, including:

- Proteomics and Genomics
- Pharmacology and Drug Development
- Cancer Research
- Molecular Biology
- Environmental Science

Major Advantages

Choosing NTHRYS BIOTECH LABS for your 2D Gel Electrophoresis needs offers numerous advantages:

- **High Resolution:** Achieve unparalleled clarity and detail in protein separation and identification.
- **Comprehensive Analysis:** Capable of analyzing complex protein mixtures to reveal minute differences between samples.
- **Expert Interpretation:** Our team provides in-depth analysis and interpretation of gel results, offering valuable insights into your research.
- **Customizable Protocols:** Adapted to meet specific research needs and project goals.

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Last Updated: 20 May 2024 12:00 pm