

# **NHD Proteomics Research Service**

## **Services & Prices 2012**

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## Your proteins – Our know-how

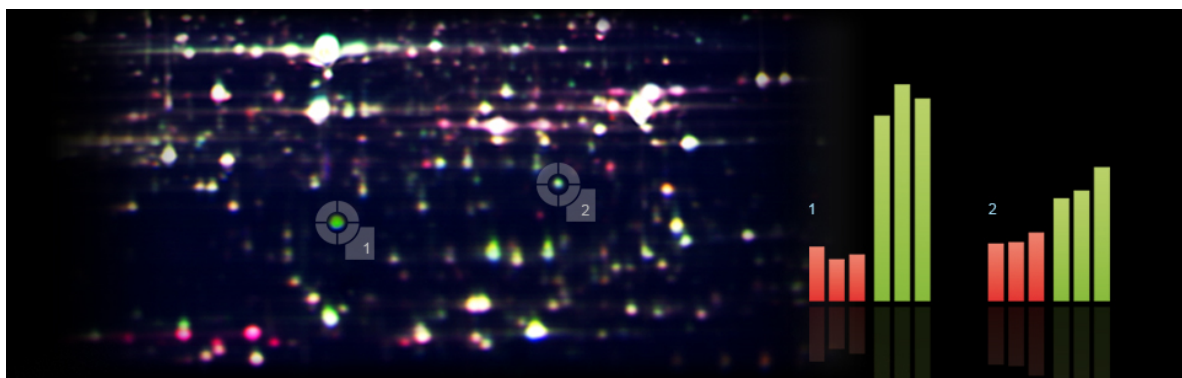
Analysis of the proteome is a challenge and requires both- first hand experience and state-of-the art equipment.

NHD combines both. Together with its innovative Refraction-2D™ technique, we offer 2D-gel based protein analysis with **high sensitivity, excellent reproducibility** and **accurate protein expression quantification**.

NHD Proteomic Research Service gets the answers to your questions on the protein level. **Experienced. Fast. Effective.**

### NHD Proteomic Research Service

- Long-time first hand experience
- State-of-the-art equipped laboratory
- Customized analyses
- Fast optimization processes
- Interactive monitoring
- Innovative Refraction-2D technique
- Careful data evaluation
- Fast and cost-effective results



Accurate quantification of protein expression by Refraction-2D™ High Resolution Gel.

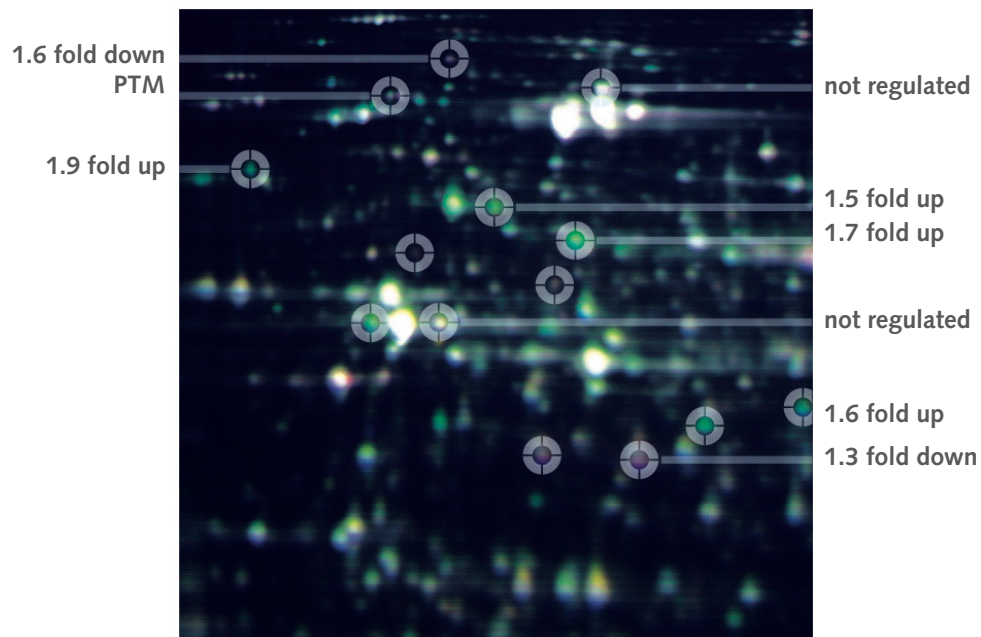
## 2D gel electrophoresis - most powerful technique for protein separation

NHD offers 2D analysis with the state-of-the-art technique Refraction-2D™ (high performance multiplex fluorescence 2D gel electrophoresis).

Refraction-2D™ combines powerful 2D protein separation with high sensitivity, excellent reproducibility and the accurate quantification of protein expression in different protein samples within one 2D gel.

### Refraction-2D™ level

- Detection sensitivity: up to 30pg
- Linearity range:  $10^4$ - $10^5$
- Sample multiplexing
- Sensitive quantification

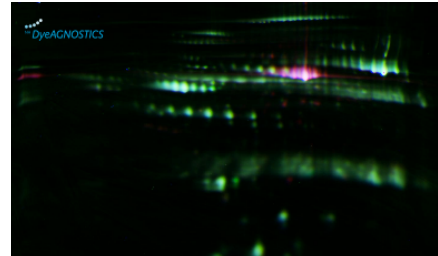


Refraction-2D™ High Resolution Gel with 3x 50 µg total protein labeled with G-Dye100, G-Dye200 and G-Dye300.

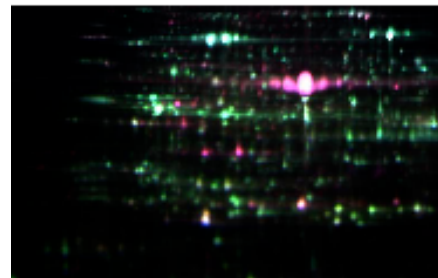
## Thorough sample preparation

To ensure the successful identification of differentially expressed proteins, a thorough preparation of the sample is essential.

This includes an enrichment of protein species like phosphoproteins and/or the depletion of abundant proteins like albumines and immunoglobulines of human and animal samples or RuBisCO in plants.



Albumin depleted (green) sample vs non-depleted sample (red)



RuBisCO depleted (green) sample vs non-depleted sample (red)

## Post-Translational Modifications (PTM)

Since post-translational modifications (PTM) are a common tool for protein regulation (e.g. phosphorylation), your protein of interest might be modified, too.

Get your protein sample or your protein of interest checked for post-translational modifications and get a new basis of research. We offer fast and cost-effective PTM analyses.

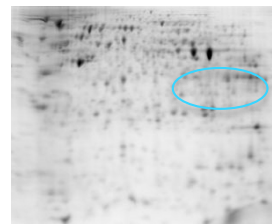


Fig. 1. Refraction-2D™ Rapid Gel with 15 µg total protein (human cell culture) labeled with the Refraction-2D™ dye G-Dye300, pI 3-10



Fig. 2. Corresponding 2D Western Blot (left, right). Four phosphorylated isoforms of the protein were detected (right).

## Price list 2012

### Multiplex Fluorescence 2D-Gel-Electrophoresis Analytics (Refraction-2D™)

#### a) Sample Preparation

- Extraction of proteins from tissue or cells
- Purification of extracted proteins
- Protein determination in respective extracts

#### b) Mutliplex Fluorescence 2D-Gel-electrophoresis (Refraction-2D™)

- Labeling of two protein extracts (e.g. „healthy vs diseased“) with two different high performance fluorescence dyes. Labeling of equal amounts from both samples with a third fluorescent dye (internal standard) for quantification
- Isoelectric focusing (IEF)
- SDS-PAGE with NHD High Resolution Gels

#### c) Gel Imaging

- Optimized scanning of 2D-gels (FLA-9000 Imaging System)
- Standardized processing of image files

#### d) Evaluation of Refraction-2D™ with state-of-the-art software (Delta2D)

- Optimized procedure to maximize the quality for evaluation
- Consideration of the experimental set up (techn. & biol. replicates, randomization, et cetera)

**per compared sample (e.g. healthy vs diseased), three replicates**

**with NHD Rapid Gels (ca 300 - 700 spots detectable) 2.250,00 €**

**with NHD High Resolution Gels (ca 1.200 - 1.800 spots detectable) 3.690,00 €**

- MS-compatible silver post stain for isolation of protein spots (Recommended for proteins smaller than 40kDa, since fluorescence labeled (ca. 3%) and non-labeled proteins (ca. 97%) migrate slightly different.

**per gel 120,00 €**

## Price list 2012

### Preparative 2D-gels (24x 18 cm) for mass spectrometric analysis

- Subsequent to Refraction-2D analytics and positive detection of weakly abundant spot candidates. Separation of up to 300 - 500 µg protein (from tissue or tissue culture) using 2D-gel electrophoresis. MS compatible silver staining

per gel 600,00 €

### Spot-Picking and sample preparation for for mass spectrometric analysis

- Spotpicking, de-staining of spots, and trypsin digest

per spot 10,00 €

- De-salting and concentration (ZipTip)

per spot 8,00 €

### PTM-Check: Analysis of post-translational modifications (PTM)

Preparation of phosphorylated proteins

- Protection of phosphorylation during preparation
- (Inhibition of phosphatases) / de-phosphorylation of the comparative sample (tissue / tissue culture).

per 4 samples 280,00 €

### Enrichment and isolation of phosphorylated proteins

- Metal oxide affinity chromatography for enrichment of phosphorylated proteins from samples (prerequisite: availability of sufficient material, e.g. tissue culture)

per 4 samples 320,00 €

### 2D-Westernblot

- Analysis of site-specific phosphorylation of proteins using NHD Rapid Gel 2D-gel electrophoresis and Western blot (prerequisite: provision of a suitable primary antibody)

price on request