

PHOSPHOPROTEIN PROFILING

NANOPRO™ 1000 & MESO SCALE DISCOVERY (MSD®)



SPECIFICATIONS

INDIVUMED offers Phosphoprotein Profiling using the NanoPro™ 1000 and Meso Scale Discovery (MSD®) platforms.

NanoPro™ 1000 is suitable for very small amounts of starting material and allows the distinction of different isoforms as well as phosphorylation stages.

MSD® technology is capable of distinguishing between total protein and phosphorylated states from a huge variety of commercially available targets.

SCOPE OF SERVICES

MSD® PLATFORM

- › Single & multiplex assays, high sensitivity due to electrochemiluminescence
- › Six logs dynamic range
- › 96-well Multi-SPOT: 5-10 µg total protein per well
- › Tissue lysates, cell lysates
- › Broad spectrum of phosphoproteins

NANOPRO™ 1000 PLATFORM

- › Capillary-based nano-immunoassay platform, based on isoelectric focussing (IEF)
- › Quantification of phosphoprotein isoforms
- › Only small amounts of protein needed (40-100 ng per capillary) or 1 x10⁵ cells for multiple analyses
- › Suitable for extremely small samples (e.g. biopsies, primary cells, microdissected cells)

| MESO SCALE DISCOVERY (MSD®)* | NANOPRO™ 1000** |
|---|---|
| INPUT MATERIAL | |
| Fresh/frozen tissue, tumor lysate from xenografts, serum, primary cells | Fresh/frozen tissue, tumor lysate from xenografts, primary cells, tumor biopsies from xenografts, microdissected tissue sections (clinical samples) |
| ASSAY FORMAT | |
| 96- and 384-well format | 96-well format |
| MULTIPLEXING | |
| Up to 10 targets | No |
| DISTINCTION OF PHOSPHORYLATION STATUS | |
| Phosphorylated and non-phosphorylated status | Mono-, dual- or multi- phosphorylated and non-phosphorylated status + potentially different phosphosites |
| APPLICATIONS / TARGETS | |
| Mono-, dual- or multi-phosphorylated and non-phosphorylated status + potentially different phosphosites | e.g. Akt, Mek, Erk, or customized protocols |

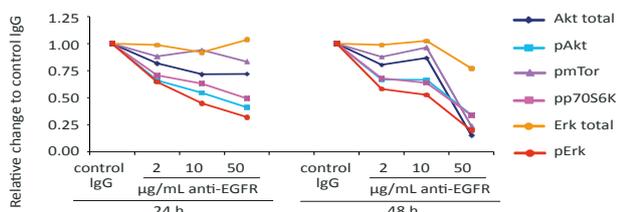
* Adapted from the brochure MSD® Technology Platform from Meso Scale Discovery

** Adapted from the brochure NanoPro™ 1000 System, characterize cell signaling in your smallest samples from Protein Simple™

PHOSPHOPROTEIN PROFILING

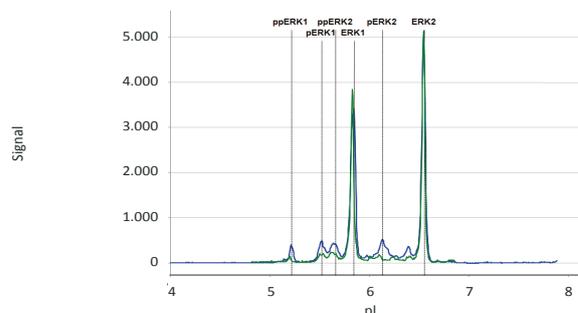
NANOPRO™ 1000 & MESO SCALE DISCOVERY (MSD®)

MSD® ASSAYS: DETECTION OF DOWNREGULATION OF SIGNALING PROTEINS BY ANTI-EGFR ANTIBODY TREATMENT



Expression levels (mean values) of total and phosphorylated Akt, phosphorylated mTOR and p70S6K as well as total and phosphorylated ERK (MAPK) in colorectal cancer tissue of case B1642. Tissue slices were treated with different concentrations (c1 = 2 µg/ml, c2 = 10 µg/ml, c3 = 50 µg/ml) of anti-EGFR antibody or control IgG-pool (150 µg/ml) for 24 or 48 hours. Afterwards lysates were prepared and analysed by Meso Scale Discovery technology platform (MSD). The relative change of expression levels (mean values) of proteins in antibody-treated tumor tissue to control IgG-pool is shown.

NANOPRO™ 1000 ASSAY: ISOFORM PHOSPHORYLATION PATTERN OF ERK1/2 IN CRC TISSUE LYSATES



Changes of the isoform phosphorylation pattern of ERK1/2 in anti EGFR antibody treated (50 µg/mL, green) and control (treated with 150 µg/mL control IgG pool, blue) CRC tissue slices of the same patient. pI: isoelectric point, p: single phosphorylated, pp: double phosphorylated.

OTHER INTERESTING PRODUCTS:

CONTROL LYSATES

Cell lysates (positive & negative controls) with defined expression of signaling molecules at different phosphorylation states as standards for Western Blotting, MSD® or NanoPro™ 1000 analyses.

- › pAKT, pERK 1/2, pMEK 1/2, pGSK3β (each positive & negative)
- › Lysates from stimulated Jurkat Cells
- › Pairs with defined expression (positive & negative) of phosphoproteins
- › Performance of lysates tested in Western Blotting, on MSD® and NanoPro™ 1000 platforms

AVAILABILITY

2 vials (50 µl each) positive lysate [2 mg/ml] in Tris lysis buffer

2 vials (50 µl each) negative lysate [2 mg/ml] in Tris lysis buffer

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