

SLIP

standardized+quantitative

**WESTERN
BLOTS**

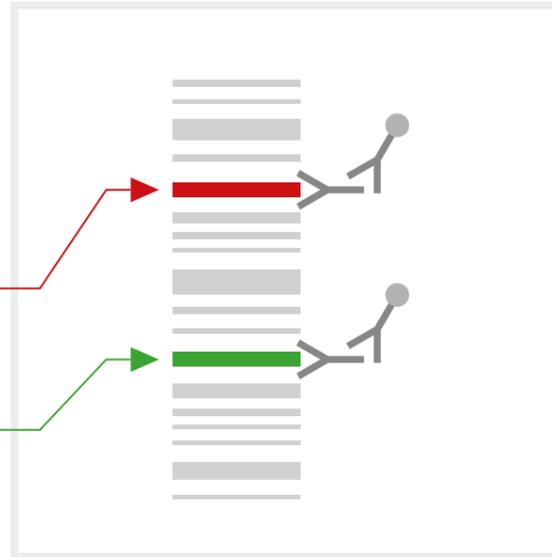
Product line WB

for modern gel based proteomics

Classical approach for qWestern Blots

1 target normalized to 1 reference protein

The total protein of the sample cannot be co-detected with the target. Therefore, the target protein is normalized to 1-2 endogenous protein(s) as reference that equal amounts of the total protein are present on the blot. No valid data if the endogenous reference protein is regulated.



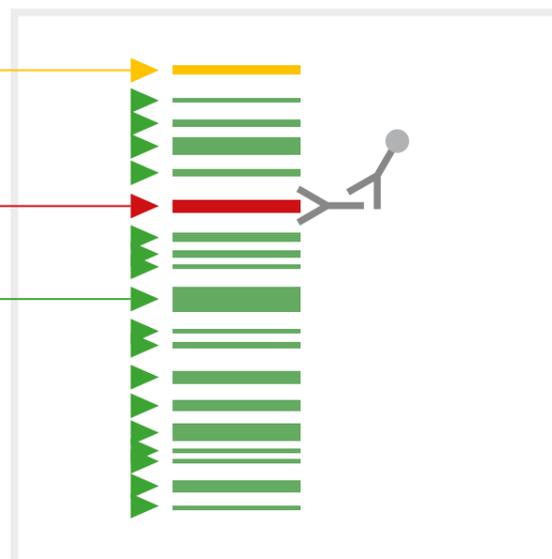
Target protein detection

Co-detection of 1 endogenous protein (e.g. Actin, GAPDH) as reference for all endogenous proteins

Smart Protein Layers Technology

1 target normalized to 1000 reference proteins

The target is directly normalized to its corresponding total protein as present on the blot. 100 % reliable quantitative data.



Fluorescent SPL standard to control sample loading, protein content, labeling efficiency.

Target protein detection

Co-detection of 800 -1200 endogenous proteins

Smart Protein Layers

Stain-free, standard-based Western Blot analysis

Smart Protein Layers (SPL) is the new standard-based technology for stain-free, quantitative and standardized analysis of 1D gels and Western blots. Normalization of target protein signal is based on total protein and SPL standards, which can be fast and precisely visualized by fluorescence detection during every step of gel and blot analysis without additional staining.

The added, unique SPL Standard (Smartalyzer) allows to compensate for differences in sample protein content (sample loss/unequal protein concentration). Comparative 1D gels and Western blot analysis do not require the determination of the protein content of samples. In addition, SPL enables the accurate comparison of target protein signal derived from different experiments (e.g. blot-to-blot analysis).

- stain-free protein visualization from gel to target detection (sensitivity of silver)
- protein content & loading equalizer – no protein content determination required
- precise protein expression quantification (lane-to-lane, experiment-to-experiment)

SPL technology for qWestern Blot analysis

SPL Kit containing:

1a

Smart Label for total protein visualization

1b

Sample standard

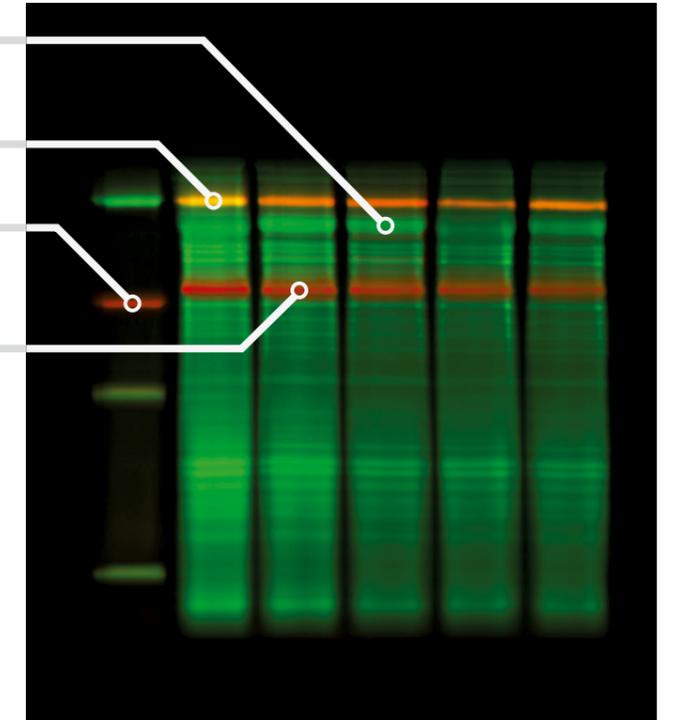
1c

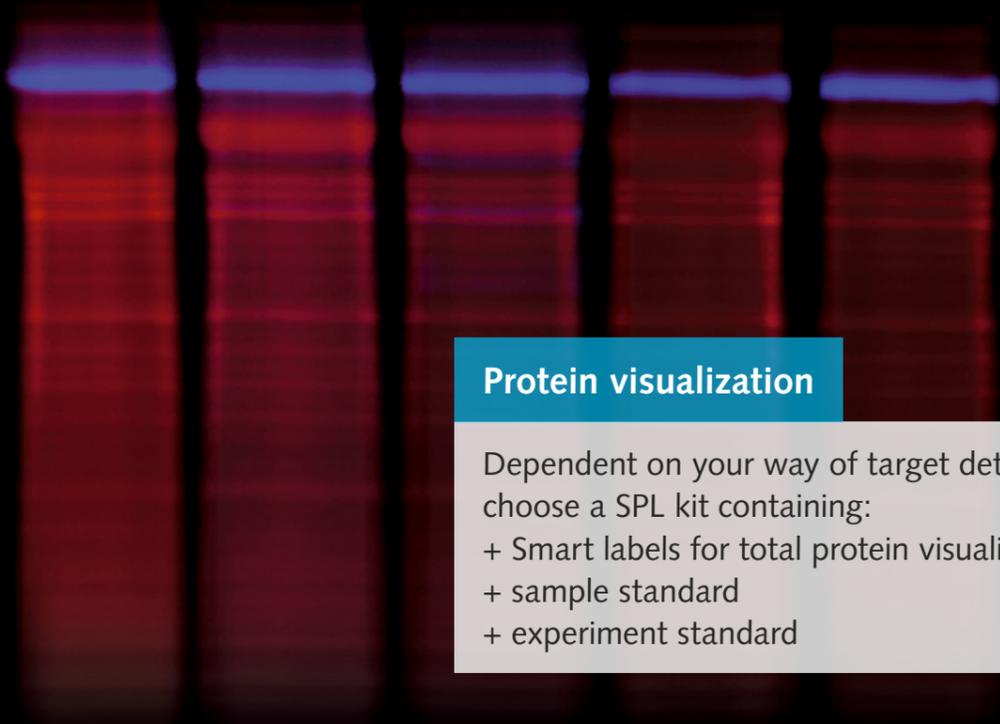
Experiment standard + protein marker

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Target detection by:

- fluorescent antibodies
- HRP antibody + Immuno Blue
- HRP antibody + chemiluminescence





Protein visualization

Dependent on your way of target detection choose a SPL kit containing:
 + Smart labels for total protein visualization
 + sample standard
 + experiment standard



SPL Red
Total protein visualization

SPL Blue
Total protein visualization

SPL Red-IR
Total protein visualization

The fluorescent *Smart Label* visualizes total protein in the gel and on the blot with high sensitivity. The bi-fluorescent *Smartalyzer* is a standard added to every sample prior to separation for precise normalization,

standardization and quantification of total protein. The *Calibrator*, a tri-fluorescent standard/ molekular weight marker, allows for the comparison of protein expression between different gels or blots.

Total protein: Smart Red
 Smartalyzer: red + blue
 Calibrator: red + blue

Total protein: Smart Blue
 Smartalyzer: blue + red
 Calibrator: blue + red

Total protein: Smart Red
 Smartalyzer: infrared + red
 Calibrator: infrared + red

Recommended target detection



Immunoblotting



ECL

Recommended target detection



Red fluorescence AB



ECL

Recommended target detection



Infrared fluorescence AB



ECL

Target detection

Choose a way of detecting your target:
 • Very low abundant targets: chemiluminescence
 • Medium low abundant targets: fluorescent antibodies, Immuno Blue
 • High abundant targets: fluorescent antibodies



Fluorescent secondary antibodies
Target protein detection

The detection of target proteins by fluorescent secondary antibodies is the most convenient way and becomes, once established, the usual way of detection.

- very easy handling
- signal stability of several months
- sensitivity in the higher pg range



Immuno Blue Fluorescent Substrate
Target protein detection

Immuno Blue Fluorescent Substrate combines the high sensitivity of chemiluminescence with signal stability and short exposure time of fluorescent antibody conjugates.

HRP-conjugated 2nd antibodies transform Immuno Blue into a fluorescent compound which precipitates and remains stable on the blot.

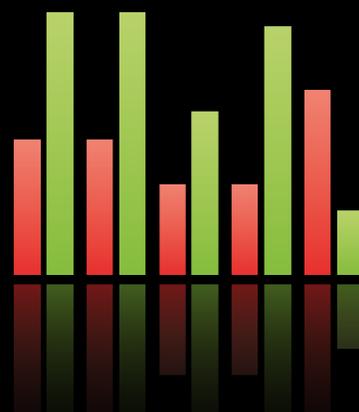
- short exposure time (10 -100 x shorter than ECL)
- long signal stability of several months
- sensitivity in the lower pg range

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Data evaluation

Automated analysis and normalization of target protein expression

Rapid detection, analysis and normalization of protein bands and lanes from gels and blots



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green fluorescence

red fluorescence

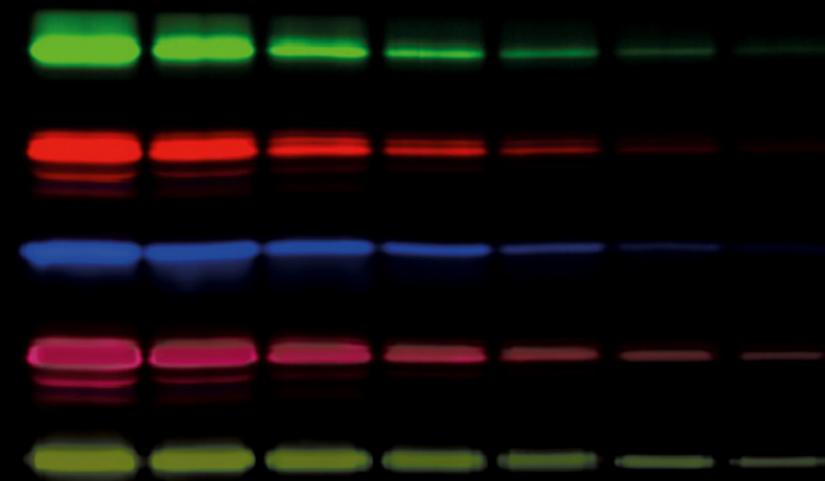
blue fluorescence

infrared fluorescence

chemiluminescence

Image acquisition

High sensitivity fluorescence and chemiluminescence imaging



Data evaluation

LabImage 1D SPL

The SPL software allows a fast and precise analysis of quantitative Western Blots and 1D gels. The total protein and sample standards of the samples are rapidly detected. Differences in protein content or amount of protein sample applied to the gel are monitored, calibrated and normalized. Target protein expression is automatically normalized to its corresponding sample total protein and sample standard.

- detection of protein bands and lanes including SPL standards
- rapid calculation and normalization of SPL standards
- rapid processing and output of data

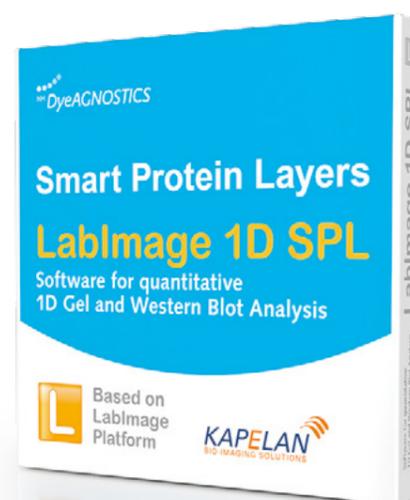


Image acquisition

Octopus QPLEX

The Octopus QPLEX is the gold standard for LED powered CCD-camera based systems in terms of detection sensitivity and multi-color specificity.

Images of up to four different fluorophores can be specifically acquired within seconds. It also allows for highly sensitive chemiluminescence detection, optionally white light transmission for VIS-stains. Very robust design for daily usage.

- high power 4-color fluorescence detection
- 4-5 orders of magnitude linear range
- high sensitivity chemiluminescence detection
- robust system for daily use



Product information

For detailed product information please visit our website at www.dyeagnostics.com or send us an email at info@dyeagnostics.com.

Prod. No.	Description
PR 913	SPL Red for 20 qWB analyses
PR 926	SPL Red for 40 qWB analyses
PR 916	SPL Blue for 20 qWB analyses
PR 925	SPL Blue for 40 qWB analyses
PR 917	SPL Red-IR for 20 qWB analyses
PR 927	SPL Red-IR for 40 qWB analyses
PR 831	Smart Red fluorescent 2nd Antibody... ...anti-mouse
PR 832	...anti-rabbit
PR 832-G	...anti-goat
PR 840	Immuno Blue Fluorescence Substrate
PR 989	LabImage 1D SPL Analysis Software
PR 435	Octoplus QPLEX RGB+NIR Fluorescence and Chemiluminescence Imager
PR 89	Velum Dry Blotter
PR 87	Beo Dry Blotter
PR 811	Blotting Kit

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