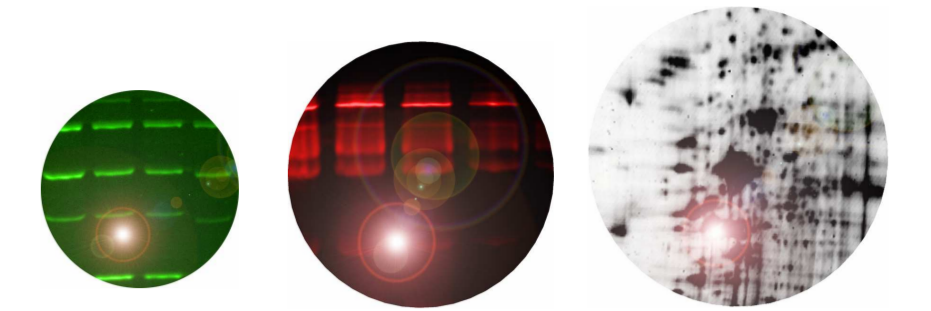


Imaging of *unstained* protein gels



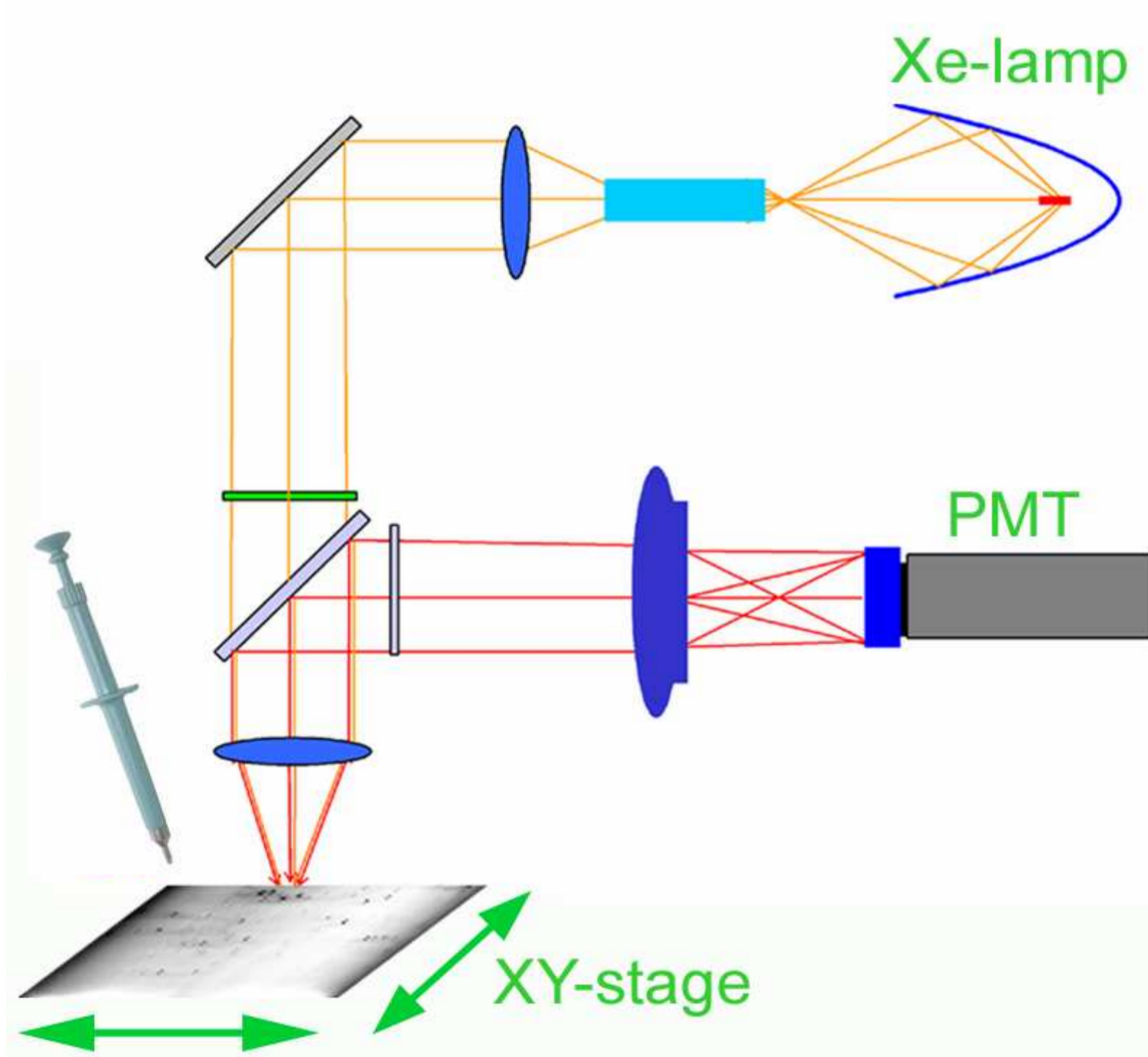
Introduction

For 30 years (Klose, O'Farrel) gel electrophoresis is widely used standardized analytical technology to separate complex protein mixtures. Simple staining methods (Silver, Coomassie) allow imaging the results, specific labeling of proteins with fluorescent dyes increased sensitivity and specificity.

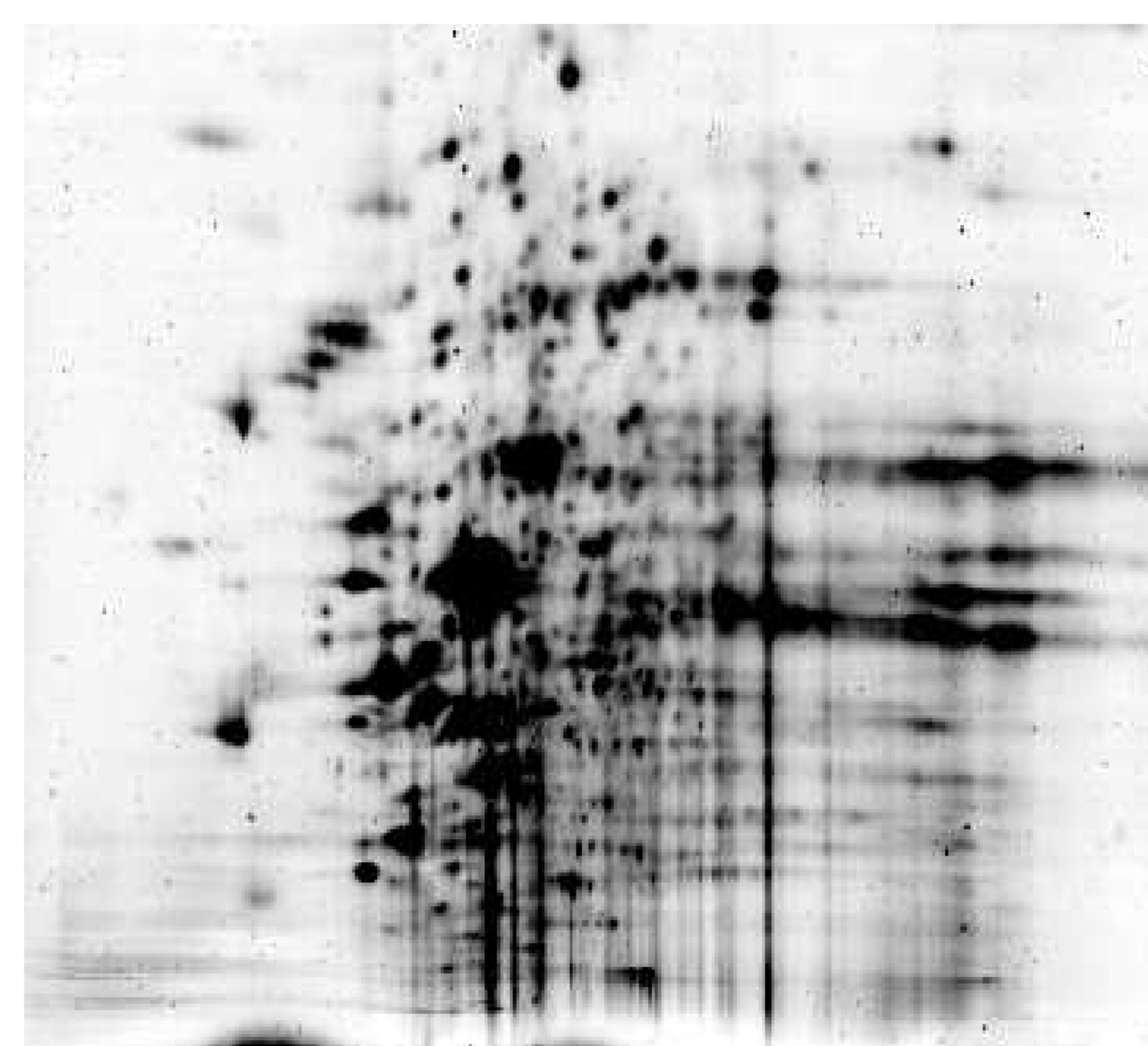
LaVision BioTec now presents a fast gel imaging system, which scans stained as well as unstained proteins via broadband ultraviolet and visible fluorescence excitation.

Setup

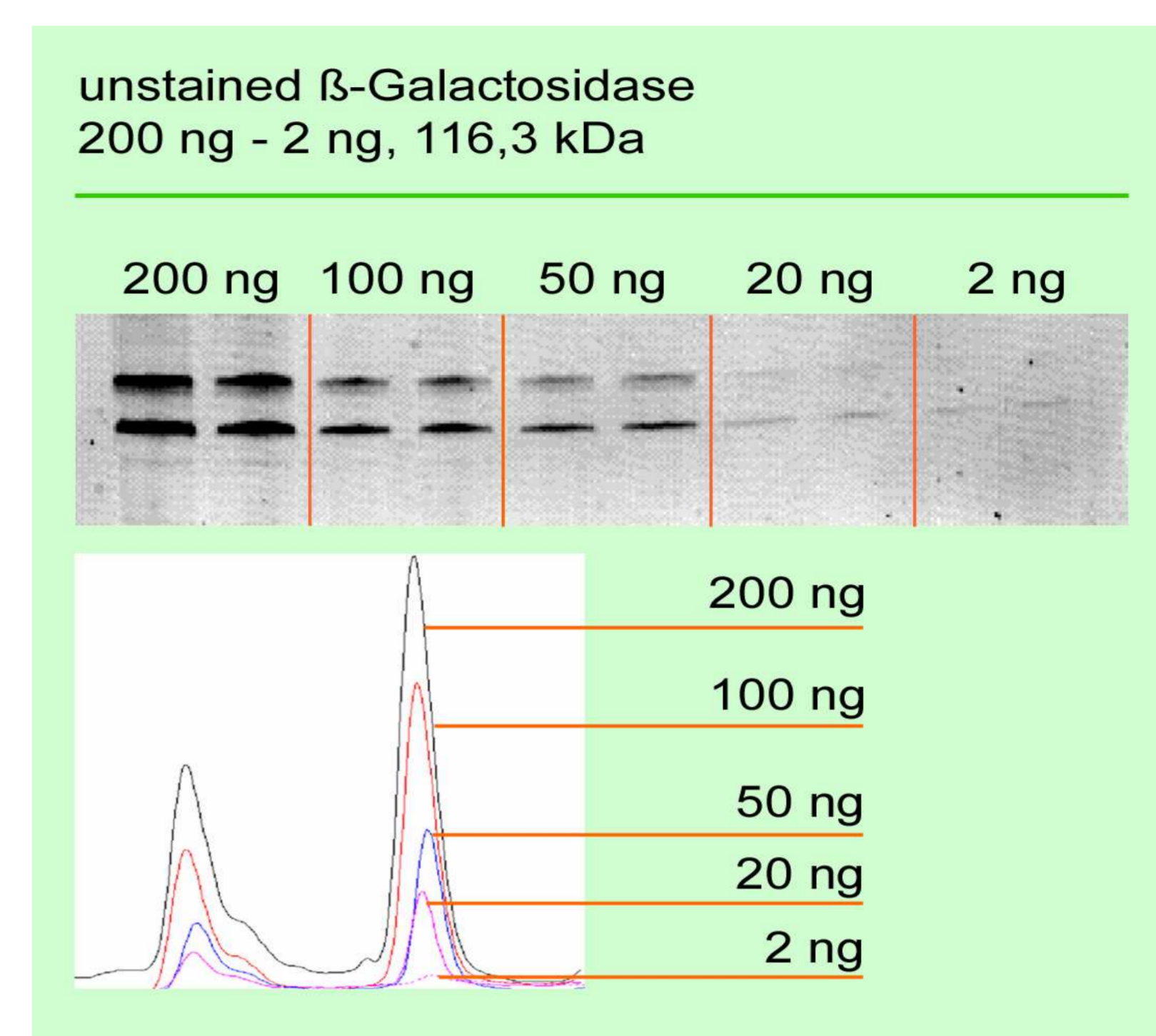
- Proprietary PMT based setup
- UV and visible illumination
- Removable easy-to-handle gel tray
- Motorized slider for 4 sets of filters
- 1 UV filter set, up to 3 VIS filter sets



Some Results



Unstained 2D-gel, 150µg cell lysate



Unstained 1D-gel, β -Galactosidase

Advantages

Visualization of proteins is usually accomplished by the application of dyes (Coomassie, Silver staining, SYPRO-Ruby...). However, different dyes have limitations in linearity, sensitivity and affordability. The BioAnalyzer Gel offers new perspectives, as no dyes are required to make the protein spots visible.

The BioAnalyzer Gel utilizes native fluorescence of amino acids (tryptophan, tyrosine...) to visualize the proteins within the gel. The outstanding advantage is of course time and cost reduction. Neither lengthy diffusion based staining processes nor covalent modifications are necessary. In addition the native fluorescence is highly quantitative. After imaging the gel can be directly processed by subsequent methods. Because of unstained proteins no purifying process is required.

Specifications

Illumination

Type	300W Xe UV White Light
Source	
Illumination	
Wave Length	265-680 nm
	1 filter position for UV fluorescence
	3 filter positions for visible fluorescence
	Free choice of wavelength by filter configuration

Detector

Spatial resolution	40 µm over whole sample area
Sensitivity	Unstained proteins < 1 ng Stained proteins < 0.1 ng
Dynamic	16 bit

Sample Format

Reading area up to
27 x 27 cm²

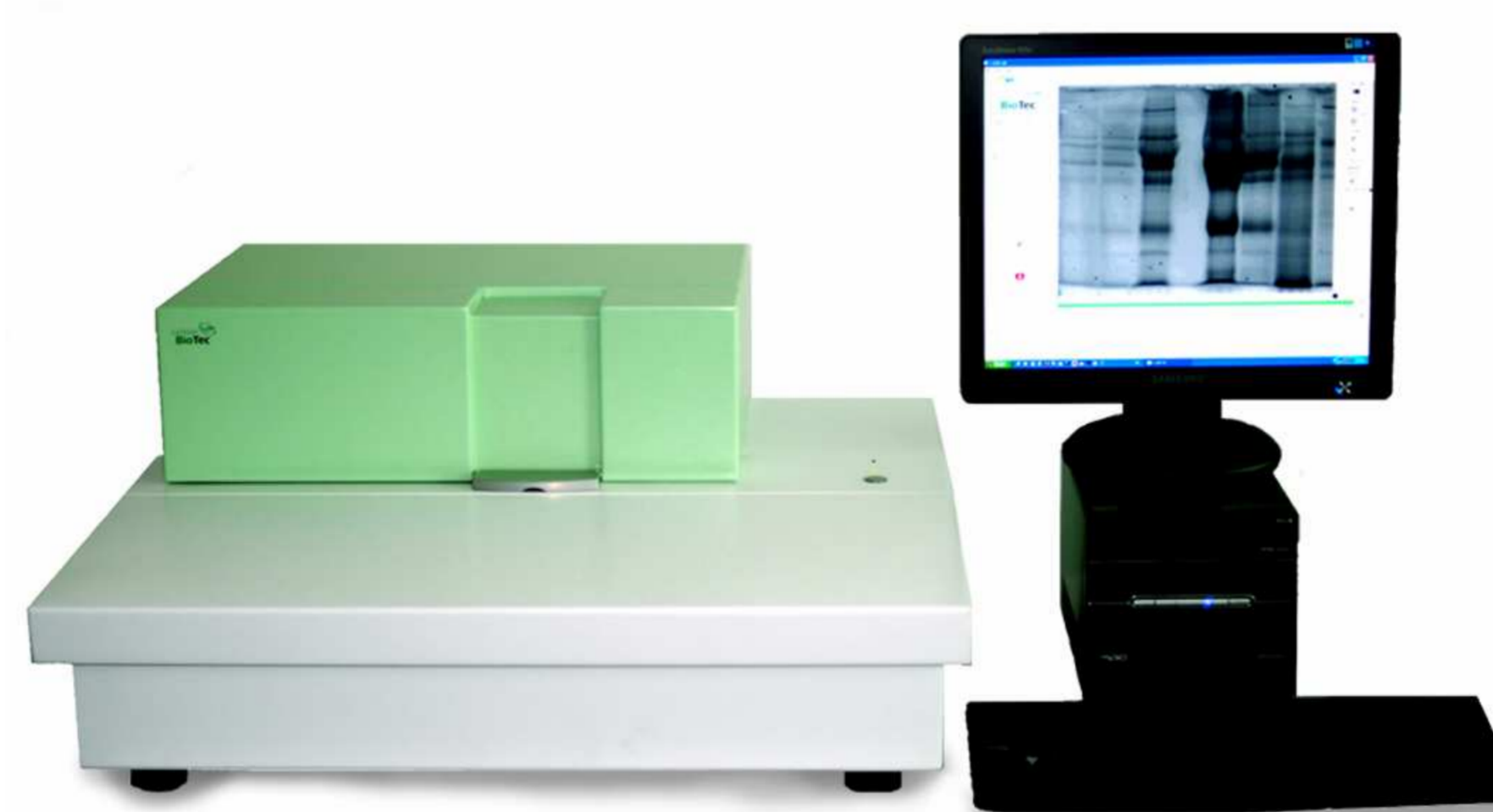
Image Acquisition Speed

<17,5 min for maximum area
(1cm²/s)
≈ 1 min for NuPage BisTris
Gel (8.5x7.5 cm²)

BioAnalyzer Gel features

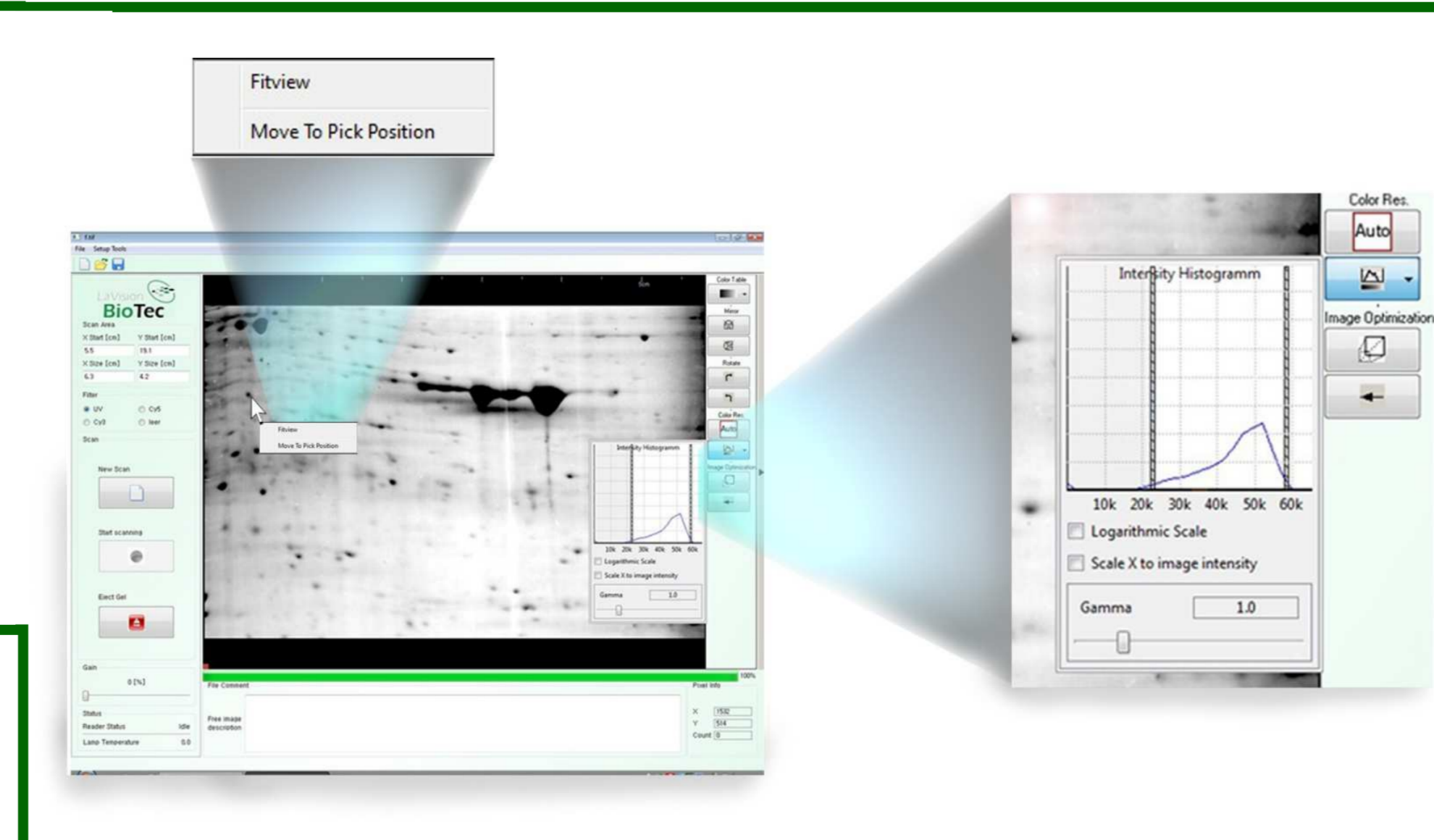
- Unique capability for imaging stained and **unstained** protein gels
- Free choice of dyes by choosing the right filter sets
- Accurate spot picking with easy to use and flexible tools
- Possibility to visualize 1D-gels, 2D-gels and DIGE gels

The BioAnalyzer Gel



Software

- Software package for data acquisition
- Easy to handle dialogues for spot picking
- Automated image processing algorithms
- Differential multi colour acquisition mode
- Export of data to TIF, BMP and JPG



Spot Picking

