

Imaging Platforms for Visualization of SYPRO® Ruby Protein Stains

SYPRO® Ruby protein gel stain shows an extremely bright and photostable red-orange luminescence when excited with either UV or blue light (Figure 1). Stained proteins can be visualized using a UV transilluminator, a blue-light transilluminator, or a laser-based scanning instrument. Gels can then be documented either on film, e.g. using Polaroid® 667 black-and-white print film, or digitally using a CCD camera or laser-based scanner. Table 1 lists the imaging platforms as well as the optimal excitation sources and emission filters that have been validated for optimal visualization of the SYPRO® Ruby protein stains.

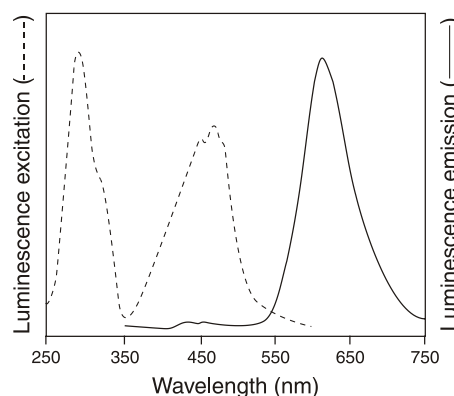


Figure 1. Excitation (dashed line) and emission (solid line) spectra of the SYPRO® Ruby protein gel and blot stains (S11791, S12000, S12001, S21900).

Table 1. Imaging platforms validated as suitable for visualization of SYPRO® Ruby protein stains.

Manufacturer	Instrument	Excitation Source	Emission Filter
Alpha Innotech Corporation	Alphamager™	300 nm UV illumination	620 nm bandpass
Bio-Rad Laboratories	Fluor-S® Multimager	300 nm UV illumination	610 nm longpass
Bio-Rad Laboratories	Molecular Imager® FX	488 or 532 nm laser	640 ± 35 nm
Clare Chemical Research	Dark Reader™	490 nm blue UV illumination	600 ± 35 nm (or the system's amber lid)
Fotodyne Inc.	FOTO/Analyst® Archiver CCD system	300 nm UV illumination	618 nm bandpass
Fotodyne Inc.	FOTO/UV® 450 transilluminator with Polaroid camera	300 nm UV illumination	490 nm longpass (SYPRO® protein gel stain photographic filter, S6656)
Fuji Photo Film Co., Ltd.	FLA-3000G	473 or 532 nm laser	580 nm longpass
Fuji Photo Film Co., Ltd.	LAS-1000 plus	470 nm blue LED	515 nm longpass
Genomic Solutions	BioImage® 2-D Analyzer Camera System	300 nm UV illumination	600 ± 35 nm
Hitachi Genetic Systems MiraiBio Inc. Division	FMBIO® II	532 nm laser	625 ± 7.5 nm
PerkinElmer Life Sciences	Kodak™ Image Station 440CF	300 or 365 nm UV illumination	590 nm longpass
Molecular Devices	SPECTRAmax® Gemini XS Microplate Spectrofluorometer	485 ± 4.5 nm (monochromator)	595 ± 4.5 nm (monochromator)
Amersham Biosciences	Storm™ 860	450 ± 15 nm (filter)	520 nm longpass
Amersham Biosciences	FluorImager™	488 nm laser	610 ± 35 nm
Nucleotech Corp.	Nucleovision™ 920	300 nm UV illumination	Texas Red® (~630 nm bandpass)
PerkinElmer Life Sciences, Inc.	Wallac 1442 Arthur™ multi-wavelength fluoroimager	480 nm excitation interference filter, epi-illumination	625 ± 15 nm
Roche Applied Science	Lumi-Imager™ F1	300 nm UV illumination	600 ± 20 nm
Scanalytics, Inc.	Docugel gel documentation	300 nm UV illumination	600 nm bandpass
Stratagene	Eagle-Eye® II	300 nm UV illumination	ethidium bromide (~600 nm bandpass) or Coomassie® Blue (~570 nm bandpass)
Ultra-Lum Inc.	TUI-6000 The Ultimate Imager	300 nm UV illumination	600 nm bandpass
UVP Laboratory Products	UV transilluminator, Visi-Blue™ plate and Polaroid® system	300 nm UV light or 480 nm blue light (using Visi-Blue plate)	600 ± 35 nm or 490 nm longpass (SYPRO® protein gel stain photographic filter, S6656)

References

1. Electrophoresis 21, 2509-2521 (2000).

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