TECHNICAL NOTES

SERVA Lightning SciDyes

SERVA serving scientists!

for Difference Gel Electrophoresis (DIGE)

The fluorescence dyes

SERVA Lightning SciDyes are Cyanine NHS ester designed for 2D Fluorescence Difference Gel Electrophoresis (DIGE). They allow for the precise comparison of protein expression in two or three samples. SERVA Lightning SciDyes are compatible with all imagers suitable for detection of Cy2®, Cy3® and Cy5®.

Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis. Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

- Designed for minimal labelling prior to protein detection in DIGE
- Size and charge matched fluorescence dyes
- Compatible with all imagers suitable for detection of Cy2®, Cy3® and Cy5®
- Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis

Cy2, Cy3 and Cy5 = trademarks of GE Healthcare Company

2D Gel
Proteins pre-labelled with SERVA Lightning Sci2

2D Gel
Proteins pre-labelled with SERVA Lightning Sci3

2D Gel
Proteins pre-labelled with SERVA Lightning Sci5

Kindly provided by. Dr. Olaf Kniemeyer and Benjamin Hanf
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2D Fluorescence Difference Gel Electrophoresis (DIGE)

2D Fluorescence Difference Gel Electrophoresis (DIGE) is a modification of traditional 2D PAGE, where up to three different protein samples are labelled with size- and charge matched, spectrally resolvable fluorescence dyes prior to separation in 2D electrophoresis.

The covalent coupling of fluorescence dyes before 2D PAGE and the use of up to three dyes enables the parallel processing of two samples and of an internal standard. Gel to gel variations are minimized and precision of quantitation is improved.

In minimal labelling the amount of dye is limiting, leading to the labelling of approximately 1 – 2 % of lysine residues in proteins. SERVA Lightning SciDyes will therefore only label a small proportion of the total protein in a sample. The three labelled samples are mixed and separated on one gel by 2D electrophoresis. The gel is then scanned or analyzed in a suitable fluorescence imager with the excitation wave length of each dye successively resulting in a separate picture for each sample.

With this method it is possible to see changes in protein abundance, post-translational modifications, truncations or any other changes in isoelectric point or size.

Specifications

SciDye	Colour	Excitation (max)	Emission (max)	Monoisotopic mass
Sci2	Green	490 nm	510 nm	550.20 Da
Sci3	Yellow	555 nm	570 nm	582.33 Da
Sci5	Red	645 nm	660 nm	580.32 Da

Ordering Information

Product	Quantity	Cat. no.
SERVA Lightning SciDye Set (contains SERVA Lightning Sci2, Sci3 and Sci 5)	5 nmol	43407.01
	10 nmol	43407.02
	25 nmol	43407.03
SERVA Lightning Sci2	5 nmol	43404.01
	10 nmol	43404.02
	25 nmol	43404.03
SERVA Lightning Sci3	5 nmol	43405.01
	10 nmol	43405.02
	25 nmol	43405.03
SERVA Lightning Sci5	5 nmol	43406.01
	10 nmol	43406.02
	25 nmol	43406.03

Version 17/05

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