

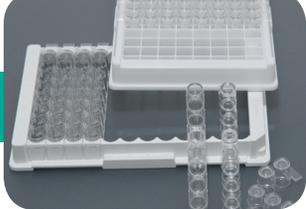
# sciCONSUMABLEs

for Miniaturized Multiplex  
Bioassays

# sciCLEAN

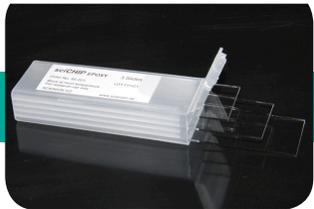
Product Name	Product Description	Contains	Product Number
sciTIPCLEANER	For gentle cleaning of the PDC tip		C-5110
sciFLUSH Kit	For location of clogging in the liquid path and for declogging PDCs		C-5120
sciCLEAN 8	Wash solution containing detergent for application of protein printing	3 x 1.5 mL	C-5283
sciCLEAN 9	Wash solution for conditioning PDCs	1 mL	C-5291





## Microplates

Product Name	Product Description	Contains	Product Number
sciSOURCETUBE PP	Tubes for holding up to 200µl of sample	12x 8 strips (96 tubes)	C-5505
sciPLEXPLATE 96 Type 1	12 x 8 <b>Well Strips</b> per Plate	10	CPH-5511-10
	Transparent, round well shape, superflat bottom, hydrophilic surface	100	CPH-5511-100
	Plate for <b>DNA</b> and <b>Protein</b> Microarrays	1.000	CPH-5511-1000
	12 x 8 <b>Single Breakable</b> Well Strips	10	CPH-5531-5
		100	CPH-5531-100
		1.000	CPH-5531-1000
	96 Well <b>Solid Plate</b>	10	CPH-5541-10
		100	CPH-5541-100
		1.000	CPH-5541-1000
	96 Well <b>Solid Black Plate</b>	10	CPH-5551-10
	100	CPH-5551-100	
	1.000	CPH-5551-1000	
sciPLEXPLATE 96 Type 2	12 x 8 <b>Well Strips</b> per Plate	10	CPH-5521-10
	Transparent, round well shape, superflat bottom, medium hydrophilic surface	100	CPH-5521-100
	Plate for <b>Protein</b> Microarrays and Multiplex ELISA	1.000	CPH-5521-1000



## sciCHIP slides

Product Name	Product Description	Contains	Product Number
sciCHIP Epoxy	Glass slides with epoxy surface for microarray applications	5x, w/o barcode	CSC-5310-5
		5x, with barcode	CSC-5311-5
		25x, w/o barcode	CSC-5310-25
		25x, with barcode	CSC-5311-25
sciCHIP Amino	Glass slides with amino surface for microarray applications	5x, w/o barcode	CSC-5330-5
		5x, with barcode	CSC-5331-5
		25x, w/o barcode	CSC-5330-25
		25x, with barcode	CSC-5331-25
sciCHIP Aldehyde	Glass slides with aldehyde surface for microarray applications	5x, w/o barcode	CSC-5340-5
		5x, with barcode	CSC-5341-5
		25x, w/o barcode	CSC-5340-25
		25x, with barcode	CSC-5341-25
sciCHIP COP	Blank polymer slides with low intrinsic fluorescence	5x	CSP-5312-5
		25x	CSP-5312-25

## sciBUFFERS: How to choose the best for your approach?

Many diagnostic assays are designed at a **pH of 7.4**, since this is the normal pH of human blood.

However, for solid phase assays, like microarray applications, one has to distinguish between coating or spotting buffers and assay buffers.

There are different buffer requirements for these two process steps.

A spotting buffer has to guarantee:

- maximum immobilization efficiency and uniform spot morphology while also,
- maintaining the functionality of the capture biomolecule for the downstream assay requirements.

For example, antibodies might have best affinity for their specific epitope at pH 7.4, but adsorptive immobilization might be best at higher pH values.

Also, it is not all about pH; if the immobilization chemistry is based on coupling of primary amines to functional groups on the surface, amine containing buffers like Tris must be avoided.

The assay buffer must guarantee optimal functionality of the involved biomolecules.

Usually, this is the case at physiological pH of 7.4. The optimal buffer shows no interaction with the biomolecule of interest.

No phosphate based buffers should be used if the experiment involves an enzyme that is affected by phosphate, such as many kinases, phosphatases, dehydrogenases.



Borate based buffers should be avoided when working with glycoproteins or nucleotides, since borate interacts with cis-hydroxyl moieties.

To guarantee a sufficient buffering capacity, a concentration of 25 – 50 mM is needed in most cases. If your assay employs enzymes which are sensitive to high ionic strength, you may try a lower concentration, e.g. 10 mM.

The pH value varies with buffer concentration. For example, the pH value of a 100 mM sodium phosphate buffer increases from 6.7 to 6.9 with 10-fold dilution.

Be aware that pH values may also vary with temperature in many cases.

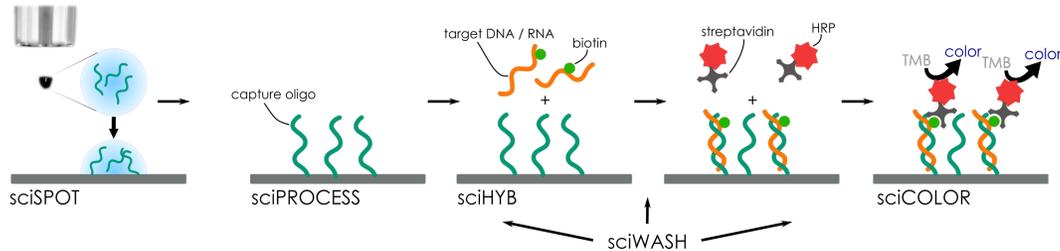
For microarray and assay processing SCIENION offers a series of special buffers, optimized for every single step including blocking, washing and sample incubation.

Our sciCOLOR is specially designed for colorimetric staining of microarrays using HRP enzyme, producing high contrast signals and close to zero background.

For all sciBUFFER products we only use ultra-pure reagents and perform a final sterile filtration step. Every batch includes a strict quality control and an according certificate of analysis.

The following product descriptions serve as a guide to help you to find the best buffer system for your application, depending on the kind of support and assay type you apply.

# sciBUFFERS for DNA, Oligos

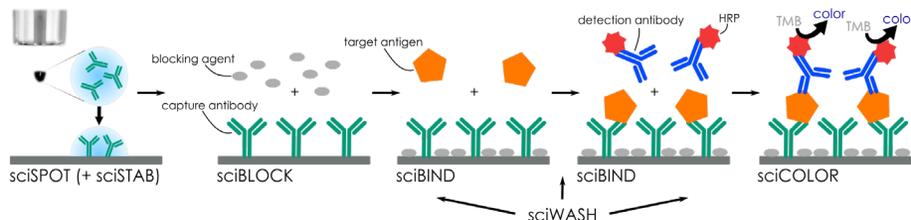


Product Name	Product Description	Contains	Product Number
sciBUFFERSET cDNA	Set of buffers for optimal microarray printing of cDNA samples, including product numbers CBD-5411-50, CBD-5413-500, CBD-5414-500, CBD-5415-500, CBD-5416-500 and CBD-5417-1.5	sciSPOT cDNA ..... sciWASH I, II, III ..... sciPROCESS cDNA ..... sciHYB	CBD-5410
sciBUFFERSET Oligo B1	Set of buffers for use with oligonucleotides on functionalized glass slides, including product numbers CBD-5421-50, CBD-5413-500, CBD-5414-500, CBD-5415-500, CBD-5426-500 and CBD-5417-1.5	sciSPOT Oligo B1 ..... sciWASH I, II, III ..... sciPROCESS Oligo ..... sciHYB	CBP-5420
sciBUFFERSET Oligo M1	Set of buffers for use with oligonucleotides on polymer surfaces, including product numbers CBD-5418-50, CBD-5426-500 and CBD-5419-50	sciSPOT Oligo B2 ..... sciPROCESS Oligo ..... sciHYB M1	CBP-5450

Buffers are available individually or as a set to cover the whole workflow

Product Name	Product Description	Contains	Product Number
sciSPOT cDNA	Printing buffer based on SSC (pH 7) with a detergent, to enable optimal microarray printing of cDNA samples.	50 mL 2x conc.	CBD-5411-50
sciSPOT Oligo B1	Printing buffer based on SSC (pH 7) and is optimized for use with oligonucleotides on functionalized glass slides.	50 mL 2x conc.	CBD-5421-50
sciSPOT Oligo B2	Printing buffer based on phosphate buffer (pH 9), for producing microarrays on polymer surfaces (sciPLEXPLATEs)	50 mL 2x conc.	CBD-5418-50
sciPROCESS-cDNA	Blocking buffers for post-printing treatment, used to deactivate the residual functional groups on the surface and minimize unspecific binding of the target DNA/RNA.	500 mL 2x conc.	CBD-5416-500
sciPROCESS-Oligo		500 mL 2x conc.	CBD-5426-500
		300 mL 2 x conc	CBD-5426-300
sciHYB	Hybridization buffer to labeled cDNA or PCR products and immobilized capture probes, while minimizing cross-hybridization. Hybridization is accelerated and more efficient due to minimized secondary structures in probes and target sequences even at lower temperatures (42 °C).	1.5 mL 1x conc.	CBD-5417-1.5
sciHYB M1	Hybridization buffer, that, in contrast to standard sciHYB, consists of a non-toxic formulation and is used at more elevated temperatures (55-65 °C).	50 mL 1 x conc.	CBD-5419-50
sciWASH I DNA	Washing buffers to reduce background signal after the hybridization step. Contain a detergent with ionic strengths for different levels of stringency.	500 mL 5x conc.	CBD-5413-500
sciWASH II DNA		500 mL 5x conc.	CBD-5414-500
sciWASH III DNA		500 mL 5x conc.	CBD-5415-500

# sciBUFFERS for Proteins



Product Name	Product Description	Contains	Product Number
sciBUFFERSET Protein D1	Set of buffers for optimal microarray printing of protein samples, including product numbers CBP-5436-25, CBP-5432-500, CBP-5433-500 and CBP-5434-1.6	sciSPOT Protein D1 sciWASH Protein D1 sciBLOCK Protein D1 sciBIND Protein D1	CBP-5430
sciBUFFERSET Protein D1M	Set of buffers for optimal microarray printing of protein samples, up to 5 x96 well plates, including product numbers CBP-5436-25, CBP-5437-250, CBP-5438-100 and CBP-5434-50	sciSPOT Protein D1 sciWASH Protein D1M sciBLOCK Protein D1M sciBIND Protein D1M	CBP-5440

Buffers are available individually or as a set to cover the whole workflow

Product Name	Product Description	Contains	Product Number
sciSPOT Protein D1	Printing buffer based on PBS at pH 7.2. PBS is a nontoxic buffer that mimics the osmolarity and ion concentrations of the human body.	25 mL 2x conc.	CBP-5431-25
sciSPOT Protein D11	Printing buffer based on sciSPOT Protein D1, but contains an additive to slow down evaporation, which improves spot homogeneity.	25 mL 2x conc.	CBP-5435-25
sciSPOT Protein D12	Printing buffer based on sciSPOT Protein D1, but includes an additive to stabilize proteins, which helps maintaining nativity of the proteins and promotes shelf life of the microarrays.	25 mL 2x conc.	CBP-5436-25
sciSPOT Protein D2	Sodium phosphate based buffer at pH 7.5.	25 mL 2x conc.	CBP-5439-25
sciSPOT Protein D3	Printing buffer based on TBS, pH 8.0.	25 mL 2x conc.	CBP-5441-25
sciSPOT Protein D4	Carbonate based printing buffer, pH 9.6	25 mL 2x conc.	CBP-5442-25
sciSTAB S3	Protein stabilizer that can be added to any of our sciSPOT buffers. This will enhance shelf life and functionality of your protein microarrays by stabilizing the native structure of the arrayed proteins.	2 mL 5 x conc.	CD-5601-2
sciBLOCK Protein D1	Designed for post-print processing of the protein microarrays and to passivate the surface. This PBS based buffer efficiently blocks unspecific binding, resulting in low background.	500 mL 5x conc.	CBP-5433-500
sciBLOCK Protein D1M		100 mL 1x conc.	CBP-5438-100
sciWASH Protein D1	PBS based washing buffer, suitable for all stages during multiplexed ELISA.	500 mL 8x conc.	CBP-5432-500
sciWASH Protein D1M		250 mL 5x conc.	CBP-5437-250
sciBIND Protein D1	PBS based reagent diluent, which is ideally suited for dilution of your samples and secondary antibodies. This buffer is formulated to enhance your signals while reducing cross-reactivity.	1.6 mL 2x conc.	CBP-5434-1.6
		50 mL 2x conc.	CBP-5434-50

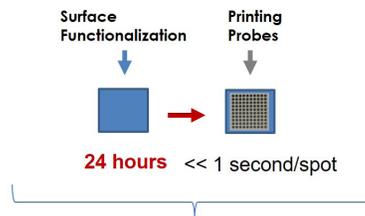
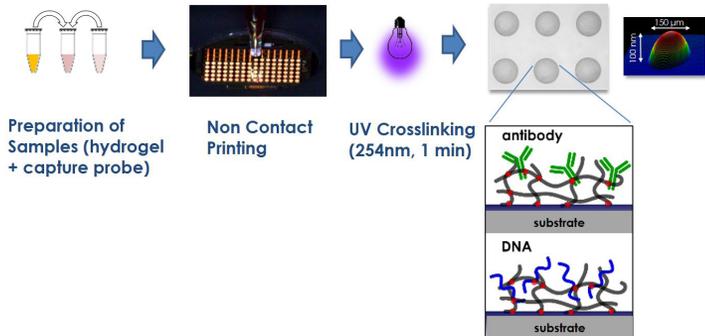
# sciPOLY 3D: Immobilization on NON Activated Surfaces

sciPOLY3D enables immobilization of biomolecules on most polymeric substrates, without the need for functional groups on the surface or the biomolecule.

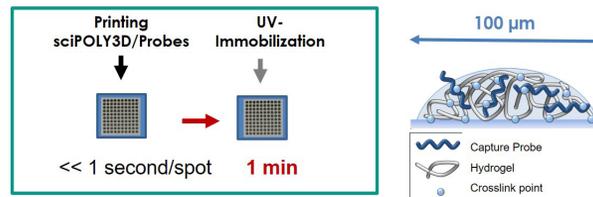
sciPOLY3D enables covalent immobilization on protein-repellent surfaces, which reduces background and makes blocking obsolete.

sciPOLY3D is water-soluble and can thus be dispensed together with e.g. proteins or DNA probes.

It contains a photo reactive moiety, which upon UV irradiation couples the polymer chains to polymeric substrates, crosslinks the polymer chains leading to a polymer network and covalently attaches the biomolecules to the network.



## Hydrogel / probe photografting technology



Directly after the printing process, place the microarrays in a UV crosslinker with a wavelength of 254 or 365 nm.

Due to the hydrophilic nature of the polymer, a surface-attached hydrogel with covalently embedded probe molecules is obtained.

The substrates do not need pretreatment, any native polymer substrate (e.g. PMMA, COP, COC, PP, PS, etc.) can be used.

## sciPOLY 3D

Product Name	Product Description	Contains	Product Number
sciPOLY3D SOLID	Polymer for 1-step printing Immobilization on non modified substrates Requires ordering of sciPOLY3D SOL1	10 mg	CP-5802-10
		100 mg	CP-5802-100
sciPOLY3D SOL1	Solution buffer for sciPOLY3D SOLID	5 mL	CP-5804-5
		50 mL	CP-5804-50
sciPOLY3D LIQUID	Polymer for 1-step printing Immobilization on non modified substrates	0.5 mL 5x conc.	CP-5803-0.5
sciPOLY3D SOL2D1	Spotting buffer for sciPOLY3D with <b>DNA</b>	1 mL 2x conc.	CP-5805-1
		100 mL 2x conc.	CP-5805-100
sciPOLY3D SOL2P1	Spotting buffer for sciPOLY3D with <b>proteins</b>	1 mL 2x conc.	CP-5806-1
		100 mL 2x conc.	CP-5806-100
sciPOLY3D DNA Starter Kit	Starter kit for DNA containing the following product numbers CP-5803-0.5 (0.3 mL), CP-5805-1, CSP-5312-5	sciPOLY3D LIQUID sciPOLY3D SOL2D1 5x sciCHIP COP	CP-5808
sciPOLY3D Protein Starter Kit	Starter kit for proteins containing the following product numbers CP-5803-0.5 (0.3 mL), CP-5806-1, CSP-5312-5	sciPOLY3D LIQUID sciPOLY3D SOL2P1 5x sciCHIP COP	CP-5807

Our starter kits (DNA and protein) are a very convenient option to try and test spotting of approx. 40 different samples and conditions. For spotting up to 100 samples, sciPOLY3D LIQUID, readily dissolved, is recommended. For larger scale spotting, we recommend sciPOLY3D SOLID to dissolve in sciPOLY SOL1 the desired amount by yourself.

## Multiplex Assay Related

Product Name	Product Description	Contains	Product Number
sciCOLOR T2	Substrate for HRP, purpose-built for blue staining microarray applications	50 mL	CD-5600-50
		100 mL	CD-5600-100
		250 mL	CD-5600-250
sciCOLOR T3	Substrate for HRP, purpose-built for black staining microarray applications	50 mL	CD-5603-50
		100 mL	CD-5603-100
		250 mL	CD-5603-250
sciSTAB S3	Protein stabilizer that can be added to any of our sciSPOT buffers. This will enhance shelf life and functionality of your protein microarrays by stabilizing the native structure of the arrayed proteins.	2 mL 5x conc.	CD-5601-2
sciMULTIPLEX Box	<p>sciMULTIPLEX system contains selected consumables to facilitate transfer of multiple traditional singleplex immunoassays to one multiplex immunoassay.</p> <p>The intention of this kit is to expedite setting up a proof-of-principle assay as a solid base for further development and validation.</p> <p>Including product numbers CPG-5502-1, CPH-5510, CPH-5520, CPH-5542, CBP-5431, CBP-5439, CBP-5441, CBP-5442, CD-5601-2, CBP-5438-100, CBP-5432, CD-5600-50</p>	<p>2x sciSOURCEPLATE 384 PP</p> <p>2x sciPLEXPLATE Type 1, 2x Type 2 and 2x solid black</p> <p>sciSPOT Protein D1, D2, D3, D4 (5 mL each at 2 conc.)</p> <p>sciSTAB S3</p> <p>sciBLOCK Protein D1M</p> <p>2x sciWASH Protein D1 (75 mL, 8x conc.)</p> <p>sciCOLOR T2</p>	CD-5602

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