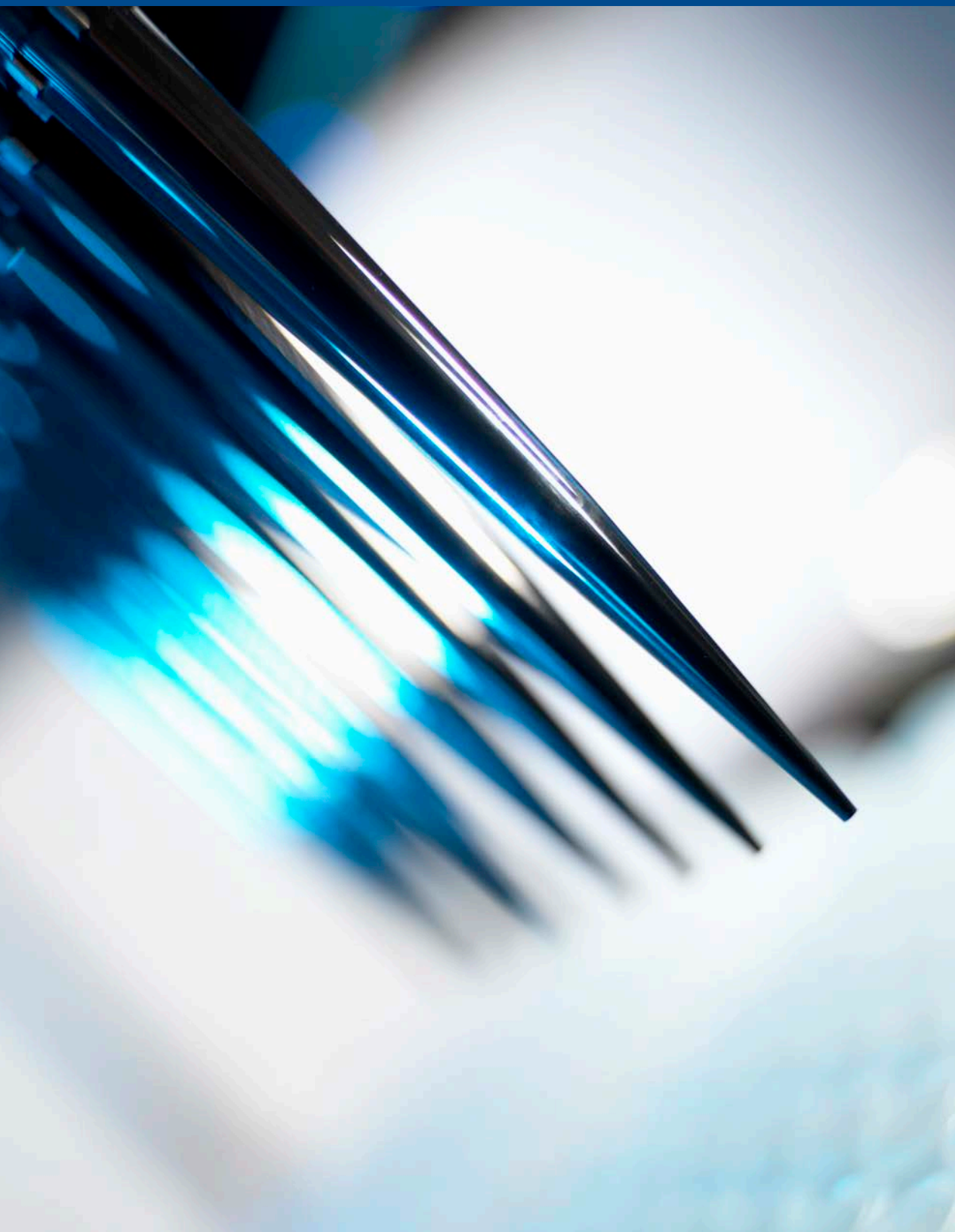


**SURMODICS™** IN VITRO DIAGNOSTIC PRODUCTS

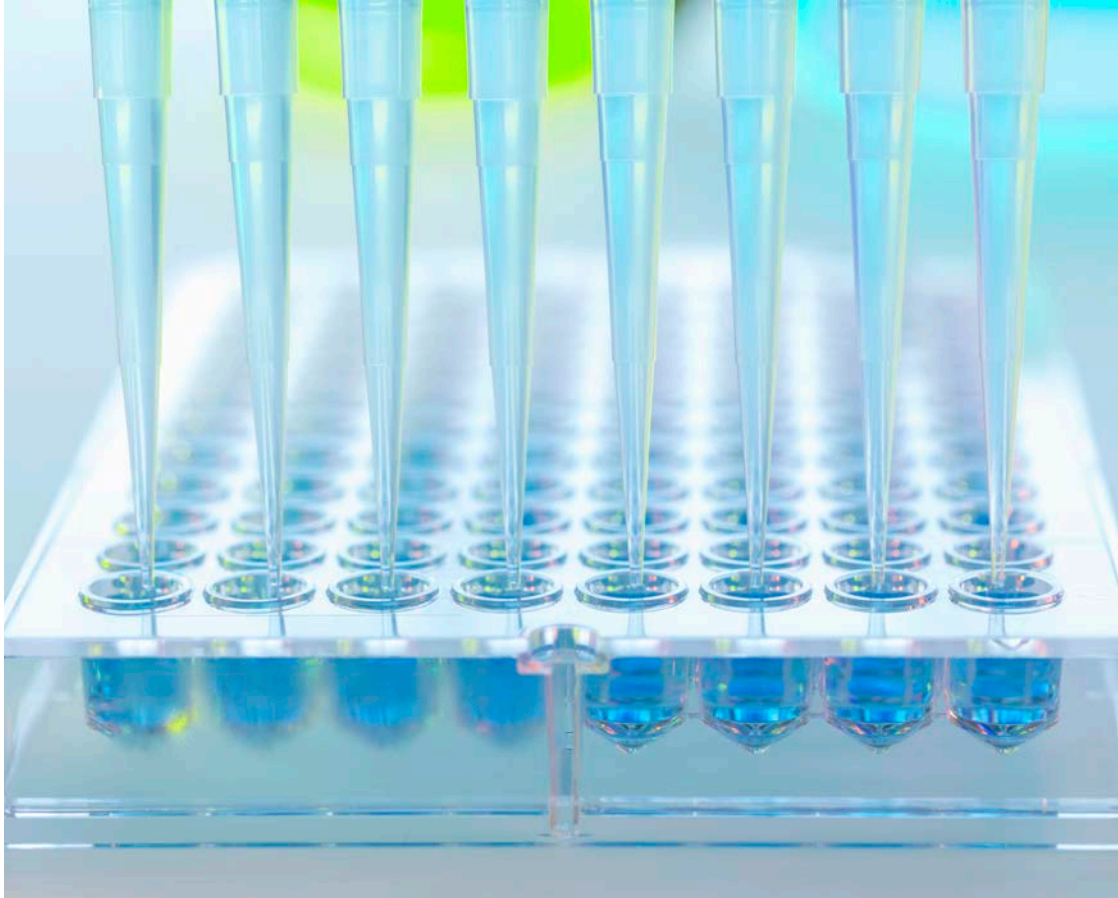
# The Gold Standard in IVD Components and Service



***FOR OVER 40 YEARS,***

Surmodics™ has provided leading in vitro diagnostic companies critical components for developing sensitive, reproducible immunoassays. Whether you are developing an ELISA/EIA, immunoblot/western blot, line assay or microarray, our IVD products are differentiated with high-performance formulations that provide a quicker path to commercialization.





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# STABILIZERS AND BLOCKERS

## Product Application Table

		Product Code	HRP	AP	Antibody Stabilization	ELISA/EIA	Blotting	Lateral Flow	Microparticles
	<i>Stabilizers</i>		<i>Enzyme</i>			<i>Application</i>			
<b>Blockers/Dried Stabilizers</b>	StabilCoat™ <i>Immunoassay Stabilizer</i>	SC01, SC05				X	X	X	
	StabilGuard™ <i>Immunoassay Stabilizer (BSA-Free)</i>	SG01				X	X	X	
	StabilBlock™ <i>Immunoassay Stabilizer</i>	ST01				X	X	X	
<b>In-solution Stabilizers</b>	StabilZyme™ <i>HRP Conjugate Stabilizer</i>	SZ02	X			X			
	StabilZyme SELECT™ <i>Stabilizer</i>	SZ03	X		X	X			X
	StabilZyme™ <i>NOBLE Stabilizer (BSA-Free)</i>	SZ04	X		X	X			X
	StabilZyme™ <i>Protein-Free Stabilizer</i>	SZPF	X		X	X			X
	StabilZyme™ <i>Protein-Free AP Stabilizer</i>	SAPF		X		X			
	StabilZyme™ <i>AP Conjugate Stabilizer</i>	SA01		X		X			
<b>Microarray/ Microsphere Stabilizers</b>	StabiliCoat™ <i>Plus Stabilizer</i>	SC02							X
	StabiliGuard™ <i>Choice Stabilizer</i>	SG02							X

# BIOFX™ SUBSTRATES

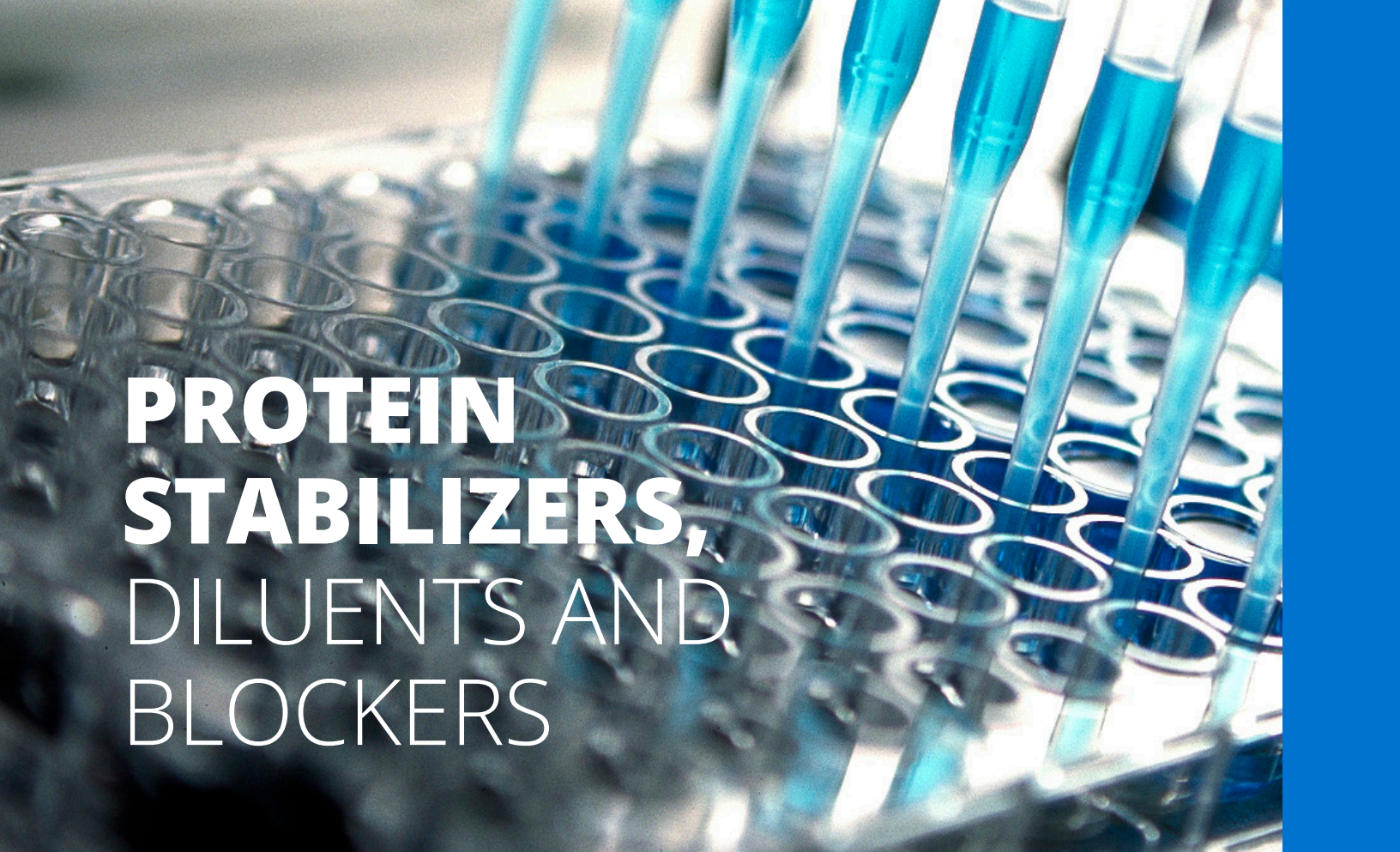
## Product Application Table

		Product Code	ELISA/EIA	Immunoblot	ELISPOT	Lateral Flow Assay (LFA)	Microparticle Enzyme-linked Immunoassay (MEIA)	Immunohistochemistry (IHC)
	<i>Substrates</i>	<i>Application</i>						
<b>Alkaline Phosphatase (AP) Substrate</b>	BCIP/NBT	BCIB, BCID		X	X	X		
	Chemiluminescent AP	APU4	X	X	X	X	X	
	pNPP	PNPS	X				X	
<b>Horseradish Peroxidase (HRP) Substrate</b>	ABTS	ABTS	X					
	Chemiluminescent HRP	CHMI, CHMM, LUMI, LERI	X	X	X	X	X	
	DAB	DABM - Blotting DABI - IHC		X	X	X		X
	TMB Microwell	TMBHD, TMBS, TMBW, TMBX,	X	X	X	X	X	
	TMB Membrane	TMBM, ESPM	X	X	X	X	X	

# WESTERN BLOT BLOCKING BUFFERS

## Product Application Table

	Horseradish Peroxidase (HRP)	Alkaline Phosphatase (AP)	General Stabilization	ELISA/EIA	Blotting	Microparticles	One-Component	Product Code
<i>Blockers</i>	<i>Enzyme</i>		<i>Application</i>				<i>Specifications</i>	
StabilBlot™ Protein-Free Blocker	X	X			X		X	SB01
StabilBlot™ Milk Blocker (10X)	X	X			X		X	SB04
StabilBlot™ Casein Blocker (5X, TBS)	X	X			X		X	SB05



# PROTEIN STABILIZERS, DILUENTS AND BLOCKERS

Surmodics™ protein stabilizers preserve antigens and antibodies in their native state – whether dried or in solution. Our blockers reduce non-specific binding while enhancing sensitivity and minimizing cross-reactivity. Surmodics' StabilZyme™ conjugate stabilizers and StabilBlock™, StabilCoat™ and StabilGuard™ dried protein stabilizers are renowned for their performance and ease of incorporation.

Surmodics' immunoassay stabilizers are the gold standard for stability and blocking efficacy. They provide improved assay performance in a one-step process for streamlined manufacturing.

- Longer Stability - Extended shelf life of dried proteins on various surfaces, including polystyrene plates, latex beads, magnetic particles and nitrocellulose membranes
- Increased Sensitivity - Increased signal-to-noise ratios across the assay range; multiple formulations to optimize lower detection limits; ELISA/EIA, ELISpot, RIA, immunoblots and microarray applications
- Negligible Backgrounds - Elimination of non-specific binding from the sample matrix and other assay components
- Ease of Manufacture - One-step blocking and stabilization process for shorter cycle times; ISO 13485:2016/9001:2015 facility for lot-to-lot consistency

## Dried Protein and Stability Blocking

Surmodics™ immunoassay reagents preserve the conformation and activity of dried proteins coated on a wide range of surfaces, keeping antibodies and antigens at peak performance for long durations. At the same time, the blocking mechanisms in these reagents reduce non-specific binding of interfering proteins to maximize assay sensitivity.

Surmodics' immunoassay stabilizers are the gold standard for stability and blocking efficacy. They provide improved assay performance in a one-step process or streamlined manufacturing.

### StabilCoat™ Immunoassay Stabilizer

Effectively preserves the conformation and activity of dried proteins in immunoassays

Product Code: SC01

Application: Dried or lyophilized protein stability

Product Buffer: PBS

Available Sizes: 50 mL, 1000 mL, 2000 mL

Shelf Life: 36 months

Preservatives: No

pH: 7.0 – 7.4

### 5X StabilCoat™ Immunoassay

**Stabilizer** Effectively preserves the conformation and activity of dried proteins in immunoassays

Product Code: SC05

Application: Dried or lyophilized protein stability

Product Buffer: PBS

Available Sizes: 100 mL, 1000 mL, 2000 mL

Shelf Life: 24 months

Preservatives: No

pH: 7.0 – 7.4

### StabilGuard™ Immunoassay Stabilizer (BSA-Free)

Maintains the activity of antibodies and other biomolecules adsorbed or immobilized to solid substrates without the use of BSA

Product Code: SG01

Application: Dried or lyophilized protein stability

Product Buffer: PBS

Available Sizes: 50 mL, 1000 mL

Shelf Life: 36 months

Preservatives: No

pH: 6.6 – 7.2

### StabilBlock™ Immunoassay Stabilizer

Provides assay developers the best possible tool to lower non-specific binding and maximize the signal-to-noise ratios of immunoassays.

Product Code: ST01

Product Buffer: MOPS

Shelf Life: 36 Months

Application: Dried protein stability

Available Sizes: 50 mL, 1000 mL

Preservatives: Yes

pH: 6.5-7.5

In addition to increased stability, Surmodics' protein stabilizers can be used as blocking buffers and assay diluents to increase sensitivity by decreasing the background noise caused by nonspecific binding of antibodies and other biomolecules.

## Protein and Conjugate Stabilizers

The Surmodics™ StabilZyme™ family provides unparalleled long-term stability of protein conjugates at working strength concentrations for immunoassay development. Our formulations for HRP conjugates, AP conjugates and general protein applications ensure that assay developers have a complete set of tools to address the labile nature of each protein of interest.

### StabilZyme™ AP Conjugate Stabilizer

Developed specifically for Alkaline Phosphatase (AP) conjugates in solution

Product Code: SA01  
Application: In-solution protein stability  
Product Buffer: MES  
Available Sizes: 50 mL, 1000 mL, 2000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 5.5 – 6.5

### StabilZyme™ HRP Conjugate Stabilizer

Developed specifically for Horseradish Peroxidase (HRP) conjugates in solution

Product Code: SZ02  
Application: In-solution protein stability  
Product Buffer: MOPS  
Available Sizes: 50 mL, 1000 mL, 2000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 6.2 – 6.7

### StabilZyme™ Protein-Free AP

**Stabilizer** Protein-free stabilizer for Alkaline Phosphatase (AP)

Product Code: SAPF  
Application: In-solution protein stability for AP  
Product Buffer: MOPS  
Available Sizes: 50 mL, 1000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 6.3 – 7.3

### StabilZyme™ Protein-Free Stabilizer

Eliminate interference and cross-reactivity

Product Code: SZPF  
Application: In-solution protein stability  
Product Buffer: MOPS  
Available Sizes: 50 mL, 1000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 6.3 – 7.3

### StabilZyme SELECT™ Stabilizer

Stabilizes biologically active components in solution and protects the activity of proteins commonly used in immunoassays, such as antisera controls and in-solution competitive assays

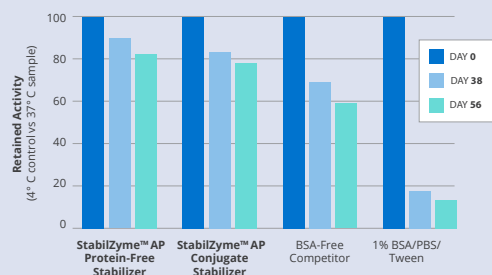
Product Code: SZ03  
Application: In-solution protein stability  
Product Buffer: None  
Available Sizes: 50 mL, 1000 mL, 2000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 6.5 – 7.5

### StabilZyme™ NOBLE Stabilizer (BSA-Free)

Designed for conjugated proteins, antibody-coated particles, and unmodified proteins in solution without the use of BSA

Product Code: SZ04  
Application: In-solution protein stability  
Product Buffer: MOPS  
Available Sizes: 50 mL, 1000 mL  
Shelf Life: 30 months  
Preservatives: Yes  
pH: 6.0 – 7.0

#### AP CONJUGATE STABILITY



### StabilZyme™ Protein-Free Stabilizers

eliminate interference and cross-reactivity. Both our BSA-containing stabilizers and protein-free options offer excellent stability, specificity and sensitivity.

## Stabilizers for Microsphere-Based Assays and Microarray Slides

These stabilizers preserve the conformation and activity of proteins bound to microspheres and proteins on microarrays stored long-term in solution or in the dried state. They produce more accurate results by increasing signal and reducing background.

### StabilCoat™ Plus Microarray Stabilizer

Improves the stability of proteins bound to microspheres stored in solution, and array proteins stored in the dried state

Product Code: SC02

Application: Dried or in-solution protein stability

Product Buffer: PBS

Available Sizes: 50 mL, 1000 mL

Shelf Life: 36 months

Preservatives: Yes

pH: 7.0 – 7.4

### StabilGuard™ Choice Microarray Stabilizer (BSA-Free)

Improves the stability of proteins bound to microspheres stored in solution, and array proteins stored in the dried state without the use of BSA

Product Code: SG02

Application: Dried or in-solution protein stability

Product Buffer: PBS

Available Sizes: 50 mL, 1000 mL

Shelf Life: 36 months

Preservatives: Yes

pH: 6.6 – 7.2



Surmodics™ IVD manufacturing process includes custom manufacturing, bulk manufacturing, custom labeling, custom bottling, custom formulation and custom dispenses for many of the stabilizer products and substrate products shown. Contact us with your requirements.

## Diluents

Due to the variability within patient samples, different blocking mechanisms are needed to dilute assays/patient samples to achieve maximum assay performance. Both MatrixGuard™ Diluent and Surmodics™ Assay Diluent (Protein-Free) provide the gold standard in reducing false positives in your assay.

### Protein-Free

Surmodics™ Assay Diluent (Protein-Free)

Product Code: SM01

Shelf Life: 24 months

### Protein

MatrixGuard™ Diluent

Product Code: SM02

Shelf Life: 36 months

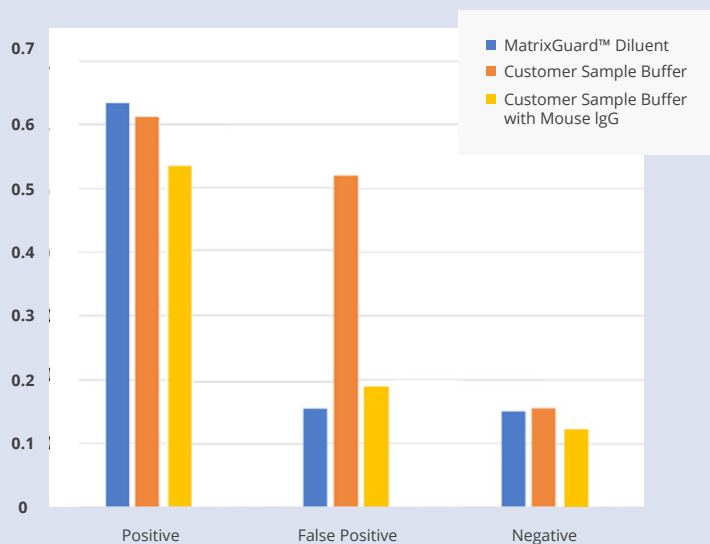



### OUTSTANDING REDUCTION OF FALSE POSITIVES AND FALSE NEGATIVES.

As seen in the graph to the right, SM02 provides outstanding reduction of false positives in a customer assay.

50 ul of buffer (as defined on the graph) containing the customer's detection antibody was added to the wells of antibody coated 96 well plate. Immediately 100 ul of sample (Positive, False Positive, Negative) was added to each well and incubated for 1 hour. The plate was then washed, Streptavidin-HRP was added for 30 minutes, the plate was washed and finally TMB was added to each well for color development. The graph shows the OD 650 recorded for each sample and buffer combination.

### BLOCKING MATRIX INTERFERENCES





# IMMUNOASSAY SUBSTRATES

The signal generation step of immunoassay systems is critical to obtaining an accurate measurement of the target protein. Surmodics™ portfolio of BioFX™ colorimetric and chemiluminescent substrates offers the stability, low background and sensitivity needed to meet the demands of assay manufacturers. A range of substrate sensitivities are available for ELISA, Western Blot, ELISpot and immunohistochemistry applications.

## TMB Microwell Substrates

The Surmodics™ TMB microwell substrate family outperforms competitors for low background, stability and sensitivity with a variety of kinetic rate substrates. Our one-component formulations provide optimal signal generation and longer shelf lives for ELISA/EIA while streamlining assay manufacturing.

### NEW: TMB High Definition One Component HRP Microwell Substrate

Product Code: TMBHD

Application: Microwell

Shelf Life: 30 months

### TMB Conductivity One Component HRP Microwell Substrate

Product Code: TMBC

Application: Microwell

Shelf Life: 36 months

### TMB Super Sensitive One Component HRP Microwell Substrate

Product Code: TMBS

Application: Microwell

Shelf Life: 30 months

### TMB One Component HRP Microwell Substrate

Product Code: TMBW

Application: Microwell

Shelf Life: 48 months

### TMB Slow Kinetic One Component HRP Microwell Substrate

Product Code: TMSK

Application: Microwell

Shelf Life: 42 months

### TMB Extended Range HRP Microwell Substrate

Product Code: TMBX

Application: Microwell

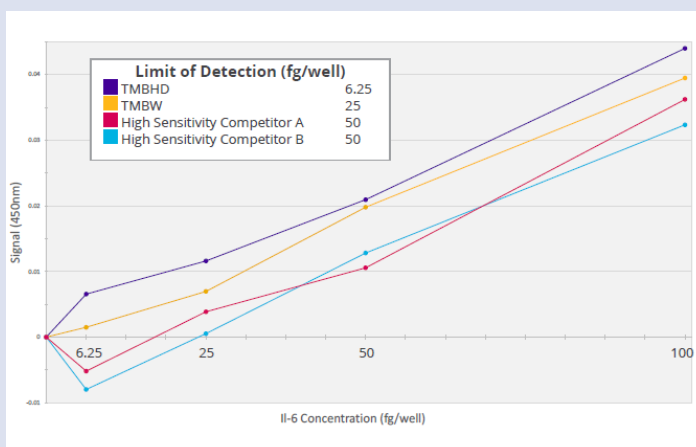
Shelf Life: 30 months



## SENSITIVITY

**Outstanding Signal Generation.** For increased sensitivity, BioFX™ TMB substrates generate higher signal per femtogram of analyte versus other TMB substrates.

An IL-6 immunoassay (R&D Systems) was run with TMBHD, TMBW, and other high sensitivity TMB substrates to compare limit of detection and sensitivity. A standard curve was prepared from 100 fg/well to 6.25 fg/well of IL-6. Signal is plotted as the 450nm OD of each well minus the background (zero standard) value. Detection limit was determined by Student's T test ( $p < 0.05$ ) at the lowest tested analyte concentration against the zero standard.



## TMB Membrane Substrates

The Surmodics™ TMB Membrane substrates outperform competitors for low background, stability and sensitivity. Our TMB Enhanced One Component HRP Membrane Substrate offers room temperature stability for 2 years and an extended dynamic range with reduction of wash out at higher peroxidase concentrations.

### TMB One Component HRP Membrane Substrate

- One-component system
- Blue/purple reaction product

Product Code: TMBM

Application: Membrane

Shelf Life: 48 months at 4°C 24 months at RT

### TMB Enhanced One Component HRP Membrane Substrate

- One-component system
- Extended dynamic range

Product Code: ESPM

Application: Membrane

Shelf Life: 48 months at 4°C 24 months at RT

Method – NIH3T3 cell lysates: Total cell lysate was prepared, run on a 4-20% Tris-Glycine gradient gel and transferred to a nitrocellulose membrane. Primary antibody (Rb x alpha-tubulin; 1:2000) and secondary antibody (Gt x Rb IgG-HRP; 1:100,000) were used to detect alpha-tubulin. Blot B was developed with Surmodics Product Code ESPM and captured using an Epson Perfection V500 Photo Scanner. Blots A and C were developed with Surmodics Product Code CHMM and LUMI, respectively, and captured using a KODAK Gel Logic 2200 Imaging System.

### DYNAMIC RANGE WITH REDUCTION OF WASH OUT



## ABTS and DAB Substrates

### ABTS One Component HRP Microwell Substrate

- One-component system read at 405/410 nm

Product Code: ABTS

Application: Microwell

Shelf Life: 36 months

### DAB Membrane Substrate

- Two-component system
- Intense brown precipitate

Product Code: DABM

Application: Membrane

Shelf Life: 36 months

### DAB Immunohistochemistry Substrate

- Two-component system
- Intense brown precipitate

Product Code: DABI

Application: Immunohistochemistry

Shelf Life: 36 months



## AP Substrates

These colorimetric substrates utilize chemistries that protect the dyes from unpredictable color change while providing dramatically improved sensitivity with low background.

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### AP-Yellow One-Component Microwell Substrate (pNPP) with Stabilizing Pellets

- Patented one-component system
- No spontaneous color change

Product Code: PNPS

Application: Microwell

Shelf Life: 36 months

U.S. Patent No.: 7001717

### BCIP/NBT Purple One-Component AP Membrane Substrate

- One-component system
- Purple precipitate

Product Code: BCID

Application: Membrane

Shelf Life: 36 months at RT

### BCIP/NBT Blue One-Component AP Membrane Substrate

- One-component system
- Blue precipitate

Product Code: BCIB

Application: Membrane

Shelf Life: 36 months at RT



# CHEMILUMINESCENT SUBSTRATES

Chemiluminescent substrates provide a higher degree of sensitivity than other substrates to enable lower limits of detection to be achieved in Western Blot assays, ELISA and membrane assays. The increase in sensitivity requires more vigilance during the optimization process through the proper selection of the luminol substrate, dioxetane substrate, antibody/antigen titers and blockers.

## Chemiluminescent HRP Substrates

Surmodics™ provides multiple two-component HRP chemiluminescent substrates with various intensities to allow the assay developer to choose the appropriate substrate for the application.

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### Chemiluminescent Ultra Sensitive HRP Microwell Substrate

- Two-component system (1:2)
- Luminol-based chemistry
- Maximum sensitivity for microwell applications

Product Code: CHMI

Application: Microwell

Shelf Life: 18 months

### Chemiluminescent Super Sensitive HRP Microwell and/or Membrane Substrate

- Two-component system (1:1)
- Luminol-based chemistry
- Maximum sensitivity for microwell and membrane applications

Product Code: LUMI

Application: Microwell and/or Membrane

Shelf Life: 18 months

### Chemiluminescent Ultra Sensitive HRP Membrane Substrate

- Two-component system (1:2)
- Luminol-based chemistry
- Maximum sensitivity for membrane applications

Product Code: CHMM

Application: Membrane

Shelf Life: 18 months

### Chemiluminescent Sensitive Plus HRP Microwell and/or Membrane Substrate

- Two-component system (1:1)
- Luminol-based chemistry
- High sensitivity for microwell and membrane applications

Product Code: LERI

Application: Microwell and/or Membrane

Shelf Life: 18 months

## Chemiluminescent AP Substrate

This products offers extremely sensitive detection based on dioxetane chemistry with detection potential to attogram sensitivity in easy-to-use, one-component formulations.


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### Chemiluminescent Ultra Sensitive AP Microwell and/or Membrane Substrate (450 nm)

- One-component system based on dioxetane chemistry
- Ultimate sensitivity for microwell and membrane applications
- Microwell applications read at 450 nm

Product Code: APU4  
Shelf Life: 24 months





# ANTIGENS AND ANTIBODIES

As the exclusive North American representative of DIARECT™ products, Surmodics™ offers a comprehensive panel of autoimmune disease antigens, infectious disease antigens, allergy antigens, and antibodies that provide outstanding assay performance for in vitro diagnostics applications. DIARECT antigens are for further manufacturing or research use only.

DIARECT recombinant and native antigens have a proven track record for quality and sensitivity in ELISA, Western Blot and lateral flow applications. The lot-to-lot consistency of DIARECT antigens reduces development time and increases productivity of immunoassay developers. The antigens and antibodies are produced in an ISO 13485:2016 and ISO 9001:2015 certified facility.

## Autoimmune Disease Antigens and Antibodies

DIARECT™ has strong capabilities in the baculovirus/Sf9 insect cell system, which has a proven track record for the successful expression of human autoimmune antigens and numerous other proteins of eukaryotic origin. E. coli and mammalian systems, together with a growing collection of expression tools, complete the range of diverse expression systems.

### ANCA Associated Diseases

Myeloperoxidase (MPO; non recombinant)

Product Code: A18500 & A18501

Category: Systemic Vasculitides

Proteinase 3 (PR3; non recombinant)

Product Code: A18600 & A18601

Category: Systemic Vasculitides / Wegener's Granulomatosis

BPI (non recombinant)

Product Code: A19200 & A19201

Category: ANCA target in diverse diseases

### Antiphospholipid Syndrome/ Thromboembolic Syndrome

β-2 Glycoprotein 1 (Apolipoprotein H)

Product Code: A14900 & A14901

β-2 Glycoprotein 1 (Apo H; non-recombinant; human)

Product Code: A11300 & A11301

β-2 Glycoprotein 1 (Apo H; non-recombinant; bovine)

Product Code: A11400 & A11401

### Autoimmune Hepatitis

Cytochrome P450 2D6 (LKM 1; ng)

Product Code: A31800 & A31801

Formiminotransferase Cyclodeaminase (LC1)

Product Code: A13700 & A13701

Mi-2

Product Code: A18100 & A18101

TIF1 Gamma

Product Code: A11000 & A11001

MDA5

Product Code: A30000 & A30001

SLA/LP

Product Code: A31800 & A31801

Cytochrome P450 2D6 (LKM 1; ng)

Product Code: A30800 & A30801

### Autoimmune Hepatitis and Liver Disease

PDC-E2 humAb IgG (supernatant)

Product Code: A36300, A36301

Category: Primary Biliary Cirrhosis

LC1 humAb IgG (supernatant)

Product Code: A36100, A36101

Category: Autoimmune Hepatitis

LKM1 humAb IgG (purified)

Product Code: A36400, A36401

Category: Autoimmune Hepatitis

## Autoimmune Disease Antigens and Antibodies *(continued)*

### Autoimmune Thyroid Disease

Thyroid Peroxidase (TPO)  
Product Code: A12100 & A12101  
Category: Graves' Disease

Thyroglobulin (non recombinant)  
Product Code: A12200 & A12201  
Category: Hashimoto Thyroiditis

### Celiac Disease

Tissue Transglutaminase (tTg;  
expressed in Baculovirus/Sf9)  
Product Code: A15200 & A15201

Tissue Transglutaminase (tTg;  
expressed in E. coli)  
Product Code: A14400 & A14401

Gliadin (recombinant; deamidated)  
Product Code: A19500 & A19501

Gliadin (non recombinant)  
Product Code: A31500 & A31501

### Crohn's Disease

GP2  
Product Code: A19600 & A19601

### Diabetes Mellitus

Glutamate Decarboxylase 65 kDa  
(GAD65; ng)  
Product Code: A31900, A31901  
Category: Diabetes

IA-2 (ICA 512)  
Product Code: A30500, A30501

### Goodpasture's Syndrome

Glomerular Basement Membrane  
(dissociated)  
Product Code: A16800 & A16801  
Category: Goodpasture's Syndrome

### Inflammatory Bowel Diseases

GP2  
Product Code: A19600 & A19601  
Category: Crohn's Disease

### Mixed Connective Tissue Disease

U1-snRNP 68/70 kDa  
Product Code: A13000 & A13001

U1-snRNP A  
Product Code: A13100 & A13101

U1-snRNP C  
Product Code: A13200 & A13201

U1-snRNP B/B'  
Product Code: A13300 & A13301

### Nuclear Antigens (ANA / ENA)

SRP54 humAb IgG (purified)  
Product Code: A18400 & A18401  
Category: Polymyositis / Dermatomyositis

NUCLEOSOME (non-recombinant; bovine)  
Product Code: A31000 & A31001  
Category: Systemic Lupus Erythematosus

Histone (non-recombinant; bovine)  
Product Code: A31100 & A31101  
Category: Systemic Lupus Erythematosus

DFS70  
Product Code: A30300 & A30301  
Category: Systemic Autoimmune Rheumatic Diseases  
(SARD)

### Pernicious Anemia

Intrinsic Factor  
Product Code: A16700 & A16701  
Category: Pernicious Anemia

## Myositis

Histidyl-tRNA Synthetase (Jo-1)

Product Code: A12900 & A12901

Threonyl-tRNA Synthetase (PL-7)

Product Code: A15600 & A15601

Alanyl-tRNA Synthetase (PL-12)

Product Code: A15700 & A15701

Glycyl-tRNA Synthetase (EJ)

Product Code: A11100 & A11101

Asparaginyl-tRNA Synthetase (KS)

Product Code: A30100 & A30101

SRP54

Product Code: A18400 & A18401

PM/Scl 100

Product Code: A16000 & A16001

PM/Scl 75

Product Code: A17000 & A17001

Mi-2

Product Code: A18100 & A18101

TIF1 Gamma

Product Code: A11000 & A11001

MDA5

Product Code: A30000 & A30001

SAE1/SAE2

Product Code: A31600 & A31601

NXP2

Product Code: A31700 & A31701

## Primary Biliary Cirrhosis

BCOADC-E2

Product Code: A17700 & A17701

M2

Product Code: A18000 & A18001

OGDC-E2

Product Code: A17800 & A17801

## Primary Biliary Cirrhosis *continued*

PDC-E2

Product Code: A17900 & A17901

Sp100

Product Code: A18900 & A18901

gp210

Product Code: A19000 & A19001

Nup62

Product Code: A19400 & A19401

## Sjogrens Syndrome

Ro/SS-A (60 kDa; recombinant)

Product Code: A17400 & A17401

Ro/SS-A (60 kDa; recombinant; bovine)

Product Code: A15500 & A15501

RO/SS-A (52 kDa)

Product Code: A12700 & A12701

La/SS-B

Product Code: A12800 & A12801

## Systemic Lupus Erythematosus

Sm (non recombinant; bovine)

Product Code: A17500 & A17501

RNP/Sm (non recombinant; bovine)

Product Code: A11600 & A11601

SmD

Product Code: A11700 & A11701

## Antigens and Antibodies *(continued)*

### Systemic Lupus Erythematosus *continued*

SmD1

Product Code: A11800 & A11801

SmD2

Product Code: A11900 & A11901

SmD3

Product Code: A12000 & A12001

dsDNA (plasmid)

Product Code: A12300 & A12301

Ribosomal Phosphoprotein P0

Product Code: A14100 & A14101

Ribosomal Phosphoprotein P1

Product Code: A14200 & A14201

Ribosomal Phosphoprotein P2

Product Code: A14300 & A14301

Proliferating Cell Nuclear Antigen (PCNA)

Product Code: A15400 & A15401

Ku (p70/p80)

Product Code: A17300 & A17301

Nucleolin

Product Code: A19700 & A19701

### Systemic Sclerosis/CREST Syndrome

Centromere Protein B (CENP-B)

Product Code: A12500 & A12501

Centromere Protein A (CENP-A)

Product Code: A16900 & A16901

DNA Topoisomerase I (Scl-70; full length)

Product Code: A12400 & A12401

DNA Topoisomerase I (Scl-70; truncated)

Product Code: A14500 & A14501

DNA Topoisomerase I (Scl-70;  
non recombinant; bovine)

Product Code: A11500 & A11501

PM/Scl 100

Product Code: A16000 & A16001

PM/Scl 75

Product Code: A17000 & A17001

## Autoimmune Disease Antigens Biotinylated

Thyroid Peroxidase (TPO) biotinylated

Product Code: A20100 & A20101

Thyroglobulin (non rec.) biotinylated

Product Code: A20200 & A20201

Ro/SS-A (60 kDa; rec.) biotinylated

Product Code: A20300 & A20301

Ro/SS-A (60 kDa; non rec.; bov.) biotinylated

Product Code: A20400 & A20401

Ro/SS-A (52 kDa) biotinylated

Product Code: A20500 & A20501

La/SS-B biotinylated

Product Code: A20600 & A20601

GBM biotinylated

Product Code: A20700 & A20701

## Antibodies

### Systemic Lupus Erythematosus:

PCNA humAb IgG

Product Code: A36600 & A36601

**Myosotis:**

SRP54 humAb IgG

Product Code: A36500, A36501

Mi-2 humAb IgG

Product Code: A36700 &amp; A36701

PL-7

Product Code: A36800 &amp; A36801

PL-12

Product Code: A36900 &amp; A36901

**Autoimmune Hepatitis:**

SLA/LP humAb IgG

Product Code: A36200 &amp; A36201

**Autoimmune Liver Disease:**

LKM1 humAb IgG

Product Code: A36400 &amp; A36401

LC1

Product Code: A37100 &amp; A37101

Sp100

Product Code: A37000 &amp; A37001

PDC-E2

Product Code: A37200 &amp; A37201

**Connective Tissue Disease:**

Jo-1 humAb IgG

Product Code: A37300 &amp; A37301

**Allergen Antigens****Food**

Ara h 1.0101

Product Code: A52500 &amp; A52501

Ara h 2.0201

Product Code: A50100 &amp; A50101

Ara h 3.0101

Product Code: A52600 &amp; A52601

Ara h 6.0101

Product Code: A51900 &amp; A51901

Ara h 8.0101

Product Code: A52700 &amp; A52701

Ara h 9.0101

Product Code: A52000 &amp; A52001

Mal d 3.0101

Product Code: A53100 &amp; A53101

Cor a 1.0401

Product Code: A51800 &amp; A51801

Gly m 4.0101

Product Code: A50500 &amp; A50501

Gly m 5.0101

Product Code: A50600 &amp; A50601

Mal d 1.0108

Product Code: A52800 &amp; A52801

Pen a 1.0101

Product Codes: A54100 &amp; A54101

Cor a 8.0101

Product Codes: A54200 &amp; A54201

Cor a 9 (non recombinant)

Product Codes: A54300 &amp; A54301

Cor a 14.0101

Product Codes: A54400 &amp; A54401

Tri a 14.0101

Product Codes: A54500 &amp; A54501

Jug r 1.0101

Product Codes: A54600 &amp; A54601

Jug r 3.0101

Product Codes: A54700 &amp; A54701

## Allergen Antigens *(continued)*

### Grasses

Art v 1.0101

Product Code: A51000 & A51001

Phl p 1.0102

Product Code: A51300 & A51301

Phl p 2.0101

Product Code: A51400 & A51401

Phl p 5.0203

Product Code: A51500 & A51501

Phl p 6.0101

Product Code: A51600 & A51601

Phl p 7.0101

Product Code: A52300 & A52301

Phl p 12.0101

Product Code: A52400 & A52401

### Trees

Aln g 1.0101

Product Code: A50700 &  
A50701

Aln g 4.0101

Product Code: A50800 &  
A50801

Bet v 1.0101

Product Code: A50200 & A50201

Bet v 2.0101

Product Code: A50300 & A50301

Bet v 4.0101

Product Code: A52100 & A52100

Bet v 6.0102

Product Code: A52200 & A52201

Car b 1.0109

Product Code: A51200 & A51201

Cor a 1.0103

Product Code: A51100 & A51101

Fra e 1.0101

Product Code: A50900 & A50901

DIARECT™ has strong capabilities in the baculovirus/Sf9 insect cell system, which has a proven track record for the successful expression of infectious disease antigens and numerous other proteins of eukaryotic origin. E. coli and mammalian systems, together with a growing collection of expression tools, complete the range of diverse expression systems.

## Infectious Disease Antigens

### Anaplasmosis

Anaplasma phagocytophilum p44

Product Code: A45500 & A45501

Anaplasma phagocytophilum Msp5

Product Code: A45600 & A45601

Anaplasma phagocytophilum OmpA

Product Code: A45800 & A45801

### Babesiosis

Babesia microti p32

Product Code: A44100 & A44101

Babesia microti IRA

Product Code: A44200 & A44201

Babesia microti p41

Product Code: A44000 & A44001

## Bartonellosis

Bartonella henselae 17 kDa  
Product Code: A45000 & A45001

Bartonella henselae 26 kDa  
Product Code: A45100 & A45101

Bartonella henselae SucB  
Product Code: A45200 & A45201

## Erythema Infectiosum

Parvovirus B19 VLP VP2  
Product Code: ~~A48000~~ & A48001

Parvovirus B19 VLP VP1/VP2 Co-Capsid  
Product Code: A48100 & A48101

## Lyme Disease – Recombinant Antigens

Borrelia afzelii BmpA  
Product Code: A41100 & A41101

Borrelia afzelii DbpA  
Product Code: A40900 & A40901

Borrelia afzelii OspA  
Product Code: A41000 & A41001

Borrelia afzelii OspC  
Product Code: A41800 & A41801  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia afzelii p100  
Product Code: A42300 & A42301  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia bavariensis DbpA  
Product Code: A42700 & A42701  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia bavariensis p58  
Product Code: A40700 & A40701  
Category: Infectious Disease - Borreliosis /  
Lyme Disease / Relapsing Fever

Borrelia burgdorferi BmpA  
Product Code: A40500 & A40501

Borrelia burgdorferi DbpA  
Product Code: A40400 & A40401

Borrelia burgdorferi DbpB  
Product Code: A40600 & A40601

Borrelia burgdorferi NapA  
Product Code: A41300 & A41301

Borrelia burgdorferi OspA  
Product Code: A41200 & A41201

Borrelia burgdorferi OspC  
Product Code: A40300 & A40301

Borrelia burgdorferi p28  
Product Code: A42500 & A42501  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Surmodics™ IVD is the exclusive distributor of DIARECT™ human recombinant infectious disease antigens in North America.

## Infectious Disease Antigens *(continued)*

Borrelia burgdorferi p30  
Product Code: A42600 & A42601  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia burgdorferi P41  
Product Code: A40200 & A40201

Borrelia burgdorferi P45  
Product Code: A41500 & A41501

Borrelia burgdorferi P58  
Product Code: ~~A41600~~ & A41601

Borrelia burgdorferi P66  
Product Code: A41700 & A41701

Borrelia burgdorferi p100  
Product Code: A40100 & A40101

Borrelia burgdorferi VlsE1  
Product Code: A45700 & A45701  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia garinii DbpA  
Product Code: A42800 & A42801  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia garinii OspC  
Product Code: A41900 & A41901  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia garinii VlsE1  
Product Code: A41400 & A41401

Borrelia miyamotoi GlpQ  
Product Code: A42400 & A42401  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia spielmanii DbpA  
Product Code: A42900 & A42901  
Category: Borreliosis / Lyme Disease /  
Relapsing Fever

Borrelia spielmanii OspC  
Product Code: A40800 & A40801

### Yersiniosis

Y. enterocolitica (O:8) YopM  
Product Code: A43000 & A43001

Y. enterocolitica (O:9) LcrV Product  
Code: A43100 & A43101

Y. ENTEROCOLITICA (O:9) YopB  
Product Code: A43200 & A43201

Y. enterocolitica (O:9) YopD  
Product Code: A43300 & A43301

Y. enterocolitica (O:9) YopH  
Product Code: A43400 & A43401

Y. enterocolitica (O:9) YopM  
Product Code: A43500 & A43501

Y. enterocolitica (O:9) YopN  
Product Code: A43600 & A43601

Y. ENTEROCOLITICA (O:9) YopE  
Product Code: A43700 & A43701

Yersinia enterocolitica (O:9) YopB  
Product Code: A43200 & A43201

### SARS-CoV-2

SARS-CoV-2 Nucleocapsid (N)

Protein  
Product Code: A46000 & A46001

SARS-CoV-2 Spike (S)  
Glycoprotein RBD  
Product Code: A46100 & A46101



# STOP SOLUTIONS AND SUPPORT REAGENTS

Proprietary BioFX™ stop solutions for colorimetric substrates are available as dry blends or in liquid formulations. Surmodics™ also offers several options for the dilution and blocking of antigens and antibodies. Proprietary solutions are available in multiple buffer configurations. These formulations offer scientists more flexibility for assay development.

## Stop Solutions

Proprietary BioFX™ stop solutions are available for TMB substrates as dry blends or in liquid formulations for reading at both 450 nm and 650 nm. Stop reagents for ABTS and pNPP are also available.

### HRP and AP Microwell Stop Solutions

#### *Powder Stop Reagents*

450 nm Stop Reagent for TMB  
Microwell Substrates

Product Code: STPR  
Shelf Life: 36 months  
Form: Dry Blend

650 nm Stop Reagent for TMB  
Microwell Substrates

Product Code: BSTP  
Shelf Life: 36 months  
Form: Dry Blend

#### *Liquid Stop Solutions*

450 nm BioFX™ Liquid Nova-Stop Solution  
for TMB Microwell Substrates

Product Code: NTSP  
Shelf Life: 48 months  
Form: Liquid

450 nm Liquid Stop Solution for  
TMB Microwell Substrates

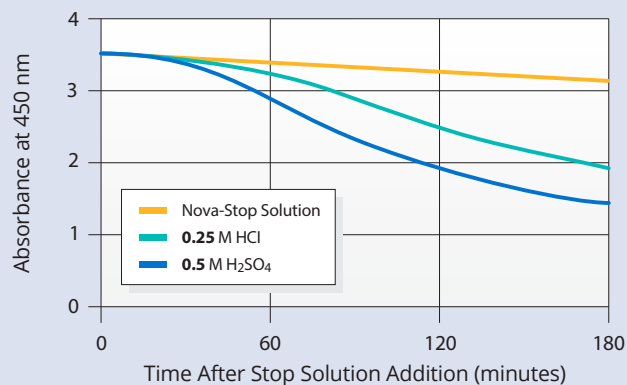
Product Code: LSTP  
Shelf Life: 36 months  
Form: Liquid

650 nm Liquid Stop Solution for  
TMB Microwell Substrates

Product Code: LBSP  
Shelf Life: 36 months  
Form: Liquid

Figure – Horseradish peroxidase (HRP) added to TMB at 300 pg/100  $\mu$ l (simulates high assay signal). TMB solutions distributed into 96- well plate (100 $\mu$ l/well) and allowed to develop for 20 minutes. Stop reagents (100  $\mu$ l) added; signal at 450 nm monitored for 3 hours.

SIGNAL DRIFT AT HIGH HRP CONCENTRATIONS (300 PG/WELL)



## Blocks and Diluents

Surmodics™ offers several BioFX™ proprietary options for the dilution and blocking of antigens and antibodies in multiple buffer configurations.

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### Non-Fat Dry Milk

Borate Buffered Saline Milk  
Blocking Solution – 10X Concentrate

Product Code: MLKB  
Shelf Life: 24 months

### Casein

Tris Buffered Saline/Casein  
Block and Diluent – 10X Concentrate

Product Code: TBSC  
Shelf Life: 24 months

Phosphate Buffered Saline/Casein  
Block and Diluent – 5X Concentrate

Product Code: PBSC  
Shelf Life: 24 months



## Washing and Coating Solutions

BioFX™ coating and washing formulations offer scientists more flexibility for assay development.

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Tris Buffered Saline Wash  
Solution – 10X Concentrate

Product Code: WSHW  
Shelf Life: 36 months

ELISA Plate Coating Solution – 10X Concentrate

Product Code: COAT  
Shelf Life: 36 months

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## Immunohistochemistry

Surmodics™ offers BioFX™ immunohistochemistry options to meet your needs.

### Alkaline Phosphatase/ Horseradish Peroxidase Block

A ready-to-use blocking reagent for immunohistochemistry samples. The solution blocks both alkaline phosphatase and peroxidase endogenous enzymatic activity.

Product Code: APHP  
Shelf Life: 36 months

A close-up photograph of several circular microarray slides. The slides are arranged in a cluster, with some in sharp focus and others blurred in the background. The colors of the slides range from light blue to dark blue, and some show faint patterns of spots. The lighting is soft, creating a professional and scientific atmosphere.

# MICROARRAY SLIDES / SURFACES

Surmodics™ TRIDIA™ surface coatings optimize DNA, RNA, protein, and cell attachment for molecular diagnostic and immunoassay applications, reducing non-specific background and improving sensitivity. These versatile coatings bind molecules to a variety of surfaces and geometries and may be customized for selectivity using passivating polymers and reactive groups.

## Microarray Slides

Surmodics™ patented coating produces a three-dimensional matrix that will covalently bind DNA, RNA, and protein. These slides are easy to use and are compatible with most available arraying and scanning equipment.

### TRIDIA™ Activated Microarray Slides

Provide high sensitivity and very low background with enhanced DNA, RNA, and protein attachment

Product Code: DN01

Available Size: 25 slides per box

Shelf Life: 10 months

### TRIDIA™ HD Activated Microarray Slides

Allow for higher spotting densities than standard CodeLink® microarray slides

Product Code: DHD1

Available Size: 23 slides per box

Shelf Life: 12 months

### TRIDIA™ EP (Epoxy) Microarray Slides

Contains an epoxide reactive group for binding amine-modified and unmodified nucleic acids and proteins

Product Code: DEPX

Available Size: 25 slides per box

Shelf Life: 24 months



## Custom *In Vitro* Diagnostic Surfaces

Surmodics™ PhotoLink™ chemistry covalently binds molecules to various surfaces. This unique chemistry allows us to tailor the surface to meet your specific needs by selecting from a variety of passivating polymers and reactive groups to create unique combinations.

Other available Surmodics coatings can improve flow characteristics for membranes and microfluidic channels or reduce the adherence of interfering blood components on your device.

### TRIDIA™ HD (High-Density) Surface

- Binds amine-modified oligos/DNA
- Binds proteins (antibodies, antigens)
- Higher spotting densities than the TRIDIA™ NHS surface

Common Applications: microRNA profiling and analysis, next generation sequencing, DNA methylation studies, SNP analysis, array CGH, ligand-receptor profiling, protein arrays

Reactive Chemistry: N-oxysuccinimide (NHS ester)

Passivating Polymer: Polymer A (non-fouling, ultra-thin hydrogel with added hydrophobicity)

### TRIDIA™ EP (Epoxy) Surface

- Binds amine-modified oligos/DNA
- Binds unmodified oligos/DNA
- Binds proteins (antibodies, antigens)
- Binds PCR products
- Binds peptides

Common Applications: DNA methylation studies, SNP analysis, array CGH, ligand-receptor profiling, peptide arrays

Reactive Chemistry: Epoxide

Passivating Polymer: Polymer B (non-fouling, ultra-thin hydrogel)

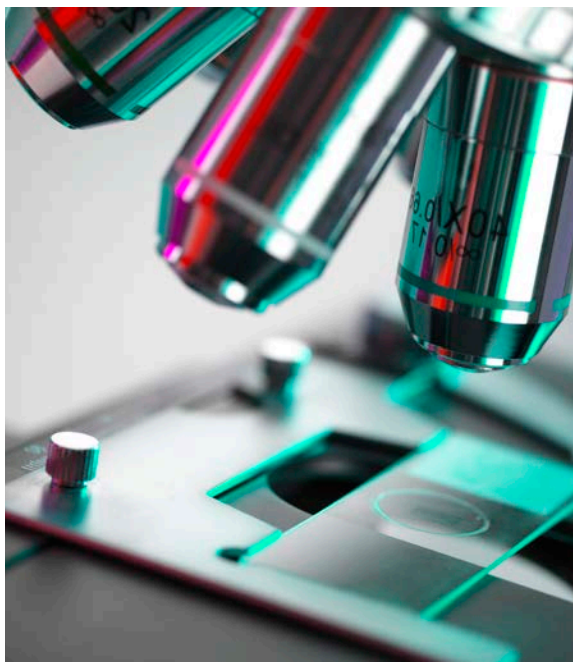
### TRIDIA™ NHS Surface

- Binds amine-modified oligos/DNA
- Binds proteins (antibodies, antigens)

Common Applications: microRNA analysis, peptide arrays, next generation sequencing, DNA methylation studies, SNP analysis, array CGH, ligand-receptor profiling

Reactive Chemistry: N-oxysuccinimide (NHS ester)

Passivating Polymer: Polymer B (non-fouling, ultra-thin hydrogel)



We offer an array of coating chemistries to enhance your diagnostic assay, whether it be slides, membranes, microtiter plates, beads, or some other surface. Glass slides, 96-well plates and POC devices/chips are standard evaluation formats.

# SURMODICS **SERVICE AND SUPPORT**

The Quality Management System (QMS) at Surmodics™ emphasizes sound design, adherence to manufacturing protocols, testing and inspection of raw materials and finished products, record keeping, complaint responsiveness, corrective action, and self-audits. The process approach involves good business practices and is based on sound quality management principles. Surmodics intends to meet customer as well as statutory and legal requirements by maintaining the effectiveness of the QMS as well as continuing to improve processes and prevent nonconforming products and services. Surmodics utilizes Total Quality concepts, meaning that the QMS is used by all employees to assure the quality and compliance of their outputs.

## Quality Management System

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### ISO Certified

Surmodics™ quality system is ISO 13485:2016 and ISO 9001:2015 certified. Visit our website at [surmodics.com/ivd](http://surmodics.com/ivd) to view these certificates, or request copies from our customer service representatives.

### Certificates of Analysis / Conformance

Surmodics produces lot-specific certificates that provide information about individual lots of all Surmodics products. If you require a certificate for a specific production lot sent to you, please contact our customer service department at 952-500-7200.

### Lot-to-Lot Consistency

Surmodics adheres to strict formulation, quality control, and quality assurance procedures. Our products are consistently monitored for quality from the raw material and in-process stage to final finished product. These procedures ensure that reagents and microarray slides from Surmodics demonstrate dependable lot-to-lot consistency in addition to optimal performance.

### DIARECT™ Antigens

Recombinant antigens are produced in Freiburg, Germany by DIARECT™ AG according to documented procedures. Each lot is subjected to a rigorous series of tests including various biochemical and immunological analyses to assure conformance to strict product specifications before release. DIARECT™ is ISO 9001:2015 and ISO 13485:2016 certified.



# ORDERING INFORMATION

Orders may be placed by telephone, fax, e-mail, or through our website at **shop.surmodics.com**

For contact information, see back cover.

Please inquire about our quantity discounts.

All shipments are sent via our standard carrier. Should you prefer to use your own carrier, please supply us with the name of your carrier and your account number.

# CUSTOMER SERVICE

Contact us at 952-500-7200 to place an order or if you have any questions. One of our friendly customer service representatives will be happy to assist you or, for technical assistance, redirect your call.

*DISCLAIMER: These products are for research and/or further manufacture and are not intended for use in humans or therapeutic purposes. Sales are without any seller's warranty or representation, expressed or implied, by usage or otherwise; no claims beyond replacement.*

# CONTACT INFORMATION

**Business Hours**

8:00 a.m. to 5:00 p.m. Central Time

**Shipping Address**

9700 West 76th St. STE 123  
Eden Prairie, MN 55344 USA

**E-commerce Website**

[shop.surmodics.com](http://shop.surmodics.com)

**Technical Support**

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**Customer Service**

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952-500-7200



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