∳7982

PathScan[®] RTK Signaling **Antibody Array Kit** (Chemiluminescent Readout)

✓ 1 Kit (16 multiplexed assays)



Orders 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web www.cellsignal.com

rev. 06/23/15

For Research Use Only. Not For Use In Diagnostic Procedures.

Species Cross-Reactivity: H

Description: The PathScan® RTK Signaling Antibody Array Kit (Chemiluminescent Readout) is a slide-based antibody array founded upon the sandwich immunoassay principle. The array kit allows for the simultaneous detection of 28 receptor tyrosine kinases and 11 important signaling nodes, when phosphorylated at tyrosine or other residues. Targetspecific capture antibodies have been spotted in duplicate onto nitrocellulose-coated glass slides. Each kit contains two 8-pad slides, allowing the user to test up to 16 samples. Cell lysate is incubated on the slide followed by a biotinylated detection antibody cocktail. Streptavidin-conjugated HRP and LumiGLO® Reagent are then used to visualize the bound detection antibody by chemiluminescence. An image of the slide can be captured with either a digital imaging system or standard chemiluminescent film. The image can be analyzed visually or the spot intensities quantified using array analysis software.

Specificity/Sensitivity: Cell Signaling Technology's PathScan® RTK Signaling Antibody Array Kit detects the indicated RTKs and signaling nodes only when phosphorylated at tyrosine or specified residues (see Array Target Map). No significant crossreactivity has been observed between targets, with the exception of some crossreactivity of the FLT3 antibody with phosphorylated EphB3. In addition, Stat1 (Tyr701) and Stat3 (Tyr705) may be detected when phosphorylated at other tyrosine sites within the proteins. This kit is optimized for cell lysates diluted to a total protein concentration between 0.2 and 1 mg/ml (see Figure 4). All capture antibodies have been validated for human targets. Although this kit has not been tested with mouse lysates, it is expected that many capture antibodies will crossreact in murine systems

Background: Receptor Tyrosine Kinases (RTKs) are a family of cell surface receptors that signal primarily through tyrosine phosphorylation events (1). RTKs trigger a wide range of downstream signaling cascades, including the PI3K/Akt, MAPK and Jak/ Stat pathways. These pathways control basic cellular functions such as division, growth, metabolism, differentiation, migration and survival. Dysregulation of RTK signaling has been implicated in a large number of cancers (2), making RTKs popular targets for pharmaceutical intervention.

Background References:

(1) Schlessinger, J. (2000) Cell 103, 211-25.

(2) Blume-Jensen, P. and Hunter, T. (2001) Nature 411, 355-65.

Products Included	Quantity	Cap Color
Array Slides	2 slides	
Multi-Well Gasket	2 gaskets	
Sealing Tape	2 sheets	
Chemiluminescent Development Folder	2 folders	
20X Array Wash Buffer	15 ml	White
Array Blocking Buffer	5 ml	Red
Array Diluent Buffer	15 ml	Blue
10X Detection Antibody Cocktail	300 µI	White
10X HRP-linked Streptavidin	300 µl	Clear
20X LumiGLO [®] Reagent A #7003	5 ml	Brown
20X Peroxide Reagent B #7003	5 ml	Clear
*Cell Lysis Buffer #9803	15 ml	Clear

*Kit should be stored at 4°C with the exception of 10X Cell Lysis Buffer, which is stored at -20°C (packaged separately)



Figure 1. Screening of a panel of cell lines using the PathScar® RTK Signaling Antibody Array Kit (Chemiluminescent Readout) #7982 reveals various phosphorylated RTKs and signaling nodes. A431 cells were starved for 24 hours, then treated with 100 ng/ml EGF #8916 for 3 minutes at 37°C. NIH/3T3 cells were starved for 24 hours, then treated with 100 ng/ml PDGF #9909 for 5 minutes at 37°C. Karpas-299 and K562 cells were lysed without starvation or treatment. The array images were captured using chemiluminescent film, with 2-5 second exposure times

gnali	U.S. Patent No. 5,675,063	of 6
2	Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide	ge 1
29	Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine	pag
	Dg—dog Pg—pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.	





Figure 4. The relationship between lysate protein concentration from untreated and IGF-I treated MCF-7 cells and the pixel intensities of phospho-IGF-IR (pan-Tyr), phospho-Akt (Ser473) and phosphop44/42 (Thr202/Tyr204) is shown. MCF-7 cells were starved for 24 hours, then treated with 100 ng/ml IGF-I #3093 for 5 minutes at 37°C.

Figure 2. Treatment of MCF-7 cells with IGF-I stimulates phosphorylation of IGF-IR at tyrosine residues, Akt at Ser473 and p44/42 MAPK at Thr202/Tyr204 as detected by the PathScari® RTK Signaling Antibody Array Kit (Chemiluminescent Readout) #7982. MCF-7 cells were starved for 24 hours, then treated with 100 ng/ml IGF-I #3093 for 5 minutes at 37°C. The chemiluminescent film image (lower panel) and the quantification of that image (upper panel) are shown. The chemiluminescent array images were captured following 2-5 second film exposures.





Phospho-Stat3 (Tyr705)





Figure 3. Treatment of A431 cells with EGF stimulates phosphorylation of EGFR, Akt, p44/42 MAPK and Stat3 as detected by the PathScan[®] RTK Signaling Antibody Array Kit (Chemiluminescent Readout) #7982. A431 cells were starved for 24 hours and treated with 100 ng/mI EGF #8916 for 5 or 40 minutes. In some cases, cells were treated with either 1 µM wortmannin #9951 for 1 hour before or 1 µM gefitinib for 2 hours before EGF stimulation. Array image pixel intensities obtained from a digital imager are shown in the top figure, while western blots are shown in the bottom figure.

orders@cellsignal.com Support

β-Actin

6000

5000

4000

3000

2000

1000

0

2 3 4 5 6 7

2 3 4 5 6 7

Pixel Intensity



Figure 5. Target map of the PathScan® RTK Signaling Antibody Array Kit (Chemiluminscent Readout)

Receptor Tyrosine Kinases

	Target	Phosphorylation Site	Family			
1	EGFR/ErbB1	pan-Tyr	EGFR			
2	HER2/ErbB2	pan-Tyr	EGFR			
3	HER3/ErbB3	pan-Tyr	EGFR			
4	FGFR1	pan-Tyr	FGFR			
5	FGFR3	pan-Tyr	FGFR			
6	FGFR4	pan-Tyr	FGFR			
7	InsR	pan-Tyr	Insulin R			
8	IGF-IR	pan-Tyr	Insulin R			
9	TrkA/NTRK1	pan-Tyr	NGFR			
10	TrkB/NTRK2	pan-Tyr	NGFR			
11	Met/HGFR	pan-Tyr	HGFR			
12	Ron/MST1R	pan-Tyr	HGFR			
13	Ret	pan-Tyr	Ret			
14	ALK	pan-Tyr	LTK			
15	PDGFR	pan-Tyr	PDGFR			
16	c-Kit/SCFR	pan-Tyr	PDGFR			
17	FLT3/Flk2	pan-Tyr	PDGFR			
18	M-CSFR/CSF-1R	pan-Tyr	PDGFR			
19	EphA1	pan-Tyr	EphR			
20	EphA2	pan-Tyr	EphR			
21	EphA3	pan-Tyr	EphR			
22	EphB1	pan-Tyr	EphR			
23	EphB3	pan-Tyr	EphR			
24	EphB4	pan-Tyr	EphR			
25	Tyro3/Dtk	pan-Tyr	AxI			
26	AxI	pan-Tyr	AxI			
27	Tie2/TEK	pan-Tyr	Tie			
28	VEGFR2/KDR	pan-Tyr	VEGFR			

Signaling Nodes

	Target	Phosphorylation Site	Family
29	Akt/PKB/Rac	Thr308	Akt
30	Akt/PKB/Rac	Ser473	Akt
31	p44/42 MAPK (ERK1/2)	Thr202/Tyr204	MAPK
32	S6 Ribosomal Protein	Ser235/236	RSK
33	c-Abl	pan-Tyr	Abl
34	IRS-1	pan-Tyr	IRS
35	Zap-70	pan-Tyr	Zap-70
36	Src	pan-Tyr	Src
37	Lck	pan-Tyr	Src
38	Stat1	Tyr701	Stat
39	Stat3	Tyr705	Stat

PathScan® Antibody Array Kit (Chemiluminescent Readout) Protocol

A Preparing Cell Lysates

- Thaw 10X Cell Lysis Buffer #9803 and mix thoroughly. Prepare 1X Cell Lysis Buffer by diluting 10X Cell Lysis Buffer in deionized water. Supplement 1X Cell Lysis Buffer with phenylmethylsulfonyl fluoride (PMSF) to a final concentration of 1 mM. Keep on ice.
- 2. Remove media and wash cells once with ice-cold 1X PBS.
- Remove PBS and add ice-cold 1X Cell Lysis Buffer. For adherent cells, use 0.5 ml 1X Cell Lysis Buffer for each plate (10 cm in diameter). Incubate on ice for 5 minutes.
- **4.** If using adherent cells, dislodge the cells using a cell scraper. Transfer lysed cells to an appropriate tube. Keep on ice.
- Microcentrifuge at maximum speed for 10 minutes at 4°C and transfer the supernatant to a new tube. The supernatant is the cell lysate. Lysate may be used immediately or stored at -80°C in single-use aliquots.
- **6.** Immediately before performing the assay, dilute lysates to 0.2 1.0 mg/ml in Array Diluent Buffer. Set aside on ice.

B Assay Procedure

- 1. Bring glass slides and blocking buffer to room temperature before use.
- Prepare 1X Array Wash Buffer by diluting 20X Array Wash Buffer in deionized water. Keep at room temperature. Dilute 1 mL of 20X Array Wash Buffer with 19 mL of deionized water. Label as 1X Array Wash Buffer.
- Prepare 1X Detection Antibody Cocktail as follow: For running only 1 slide: Dilute 150 μL of 10X Detection Antibody Cocktail with 1350 μL of Array Diluent Buffer. For running 2 slides: Dilute 300 μL of 10X Detection Antibody Cocktail with 2700 μL of Array Diluent Buffer. *Keep on ice.
- Prepare 1X HRP-linked Streptavidin as follow: For running only 1 slide: Dilute 150 μL of 10X HRP-linked Streptavidin with 1350 μL of Array Diluent Buffer. For running 2 slides: Dilute 300 μL of 10X HRP linked Streptavidin with 2700 μL of Array Diluent Buffer. *Keep on ice.
- **5.** Affix the multi-well gasket to the glass slide (see figure at right):
 - a. Place the multi-well gasket face-down on the benchtop (the silicone layer should be facing up). Remove the protective plastic film.
 - b. Carefully place the glass slide on top of the multi-well gasket with the nitrocellulose pads facing down while aligning the pads with the openings in the gasket. The orientation line should appear in the upper left hand corner when the slide is oriented vertically.
 - **c.** Insert the numbered metal clip into the groove in the gasket and rotate the clip into the locked position. Ensure that the clip is on the same side as the orientation line on the slide.
 - **d.** Slide the clip into place. The number "1" on the metal clip will now be in the same corner of the assembly as the orientation line.
 - **e.** Snap the unmarked metal clip to the other side of the assembly in the same manner and slide into place.
 - f. The assembled array is ready to use.
- Add 150 µl Array Blocking Buffer to each well and cover with sealing tape. Incubate for 15 minutes at room temperature on an orbital shaker. Note: Do not allow the pads to dry out at any time during the assay.
- Decant Array Blocking Buffer by gently flicking out the liquid into a sink or other appropriate waste receptacle. Add 150 µl diluted lysate to each well and cover with sealing tape. Incubate for 2 hours at room temp (or overnight at 4°C) on an orbital shaker.
- 8. Decant well contents by gently flicking out the liquid into a sink or other appropriate waste receptacle. Add 200 µl (1X) Array Wash Buffer to each well and incubate for 5 minutes at room temperature on an orbital shaker. Repeat three more times. Decant well contents.

- Add 150 µl (1X) Detection Antibody Cocktail to each well and cover with sealing tape.Incubate for 1 hour at room temperature on an orbital shaker.
- 10. Wash 4 X 5 minutes with 200 µl (1X) Array Wash Buffer as in step 8.
- Add 150 μl (1X) HRP-linked Streptavidin to each well and cover with sealing tape. Incubate for 30 minutes at room temperature on an orbital shaker.
- 12. Wash 4 X 5 minutes with 200 μ I (1X) Array Wash Buffer as in step 8.
- **13.** Remove multi-well gasket by pulling the bottom of the metal clips away from the center of the slide, then peeling the slide and gasket apart.
- 14. Place the slide face up in a plastic dish (a clean pipette tip box cover works well). Wash briefly with 10 ml (1X) Array Wash Buffer.
- 15. Dilute and combine LumiGLO[®] and Peroxide reagents immediately before use (to make 10 ml of a 1X solution, combine 9 ml deionized water with 0.5 ml of 20X LumiGLO[®] and 0.5 ml of 20X Peroxide).
- **16.** Decant Array Wash Buffer and cover slide with LumiGLO[®]/Peroxide reagent.
- Transfer slide to chemiluminescent development folder, ensuring that it is still covered by LumiGLO[®]/ Peroxide reagent (add a small amount on top of the slide).
- 18. Immediately capture an image of the slide using a digital imaging system capable of detecting chemiluminescent signals. If desired, quantify spot intensities using commercially available array image analysis software. Alternatively, chemiluminescent film may be used. Expose film for 2-30 seconds using even and light pressure on the top of the development cassette (do not fasten the cassette clamps) to avoid squeezing out the LumiGLO[®]/ Peroxide reagent. Develop the film using an automated film developer.

Note: If both slides are being used, it is not recommended to expose them simultaneously in the same development cassette. In this case, leave the second slide in the wash buffer (step 12) while proceeding with steps 13-18 using the first slide. After the first slide is finished, proceed with steps 13-18 using the second slide and freshly diluted LumiGL0®/Peroxide reagent.

LumiGLO® is a registered trademark of Kirkegaard & Perry Laboratories.













🖗 Cell Signaling

VI. Accidental Release Measures: Wear appropriate persona

VII. Handling And Storage:

XIV. Transport Information: DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information: EU Regulations/Classifications: Xi. Irritant. Risk Phrases: Irritant. Irritating to eyes and skin. Harmful if swallowed. Safelly Phrases: Irritaxet: weak with water and seek medical attention. US Regulatory Information: Irritant.

XVI. Other Information:

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to save as a guide for selaus on this product in a laboratory setting by experienced personnel. The burden of sale use of this material rests entirely with the user. The burden of sale is believed to be accurate bit is not necessarily all-inclusive and shall be used only as a guide. Cell Signating Technology, Inc., shall not be held liable for any damage resulting from the handling of or from construct with the above product.

protective equipment as indicated in Section VIII. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

VIII - XIII. Refer to individual MSDS for kit components for Sections 8-13 informa tion: Exposure Controls/Personal Protection, Physical and Chemical Properties, Stability and Reactivity, Toxicological Information, Ecological information, Disposal Considerations.

I. Identification:

Product name: ParkScan[®] RTK Signaling Antibody Array Kit Product Catalog: 7949. 7862 Kits Manufacturer Supplier: Cell Signaling Technology 3 Task Lane Danvers, MA (1923 USA 376-867-200 TEL 376-867-200 FAX 376-376-737 EMERGENCY TEL

II. Composition/Information: Substance Name: PathScan® RTK Signaling Antibody -dv Δrrav Kit

Substance Name: Particlain Print arguments of the Substance Name: Particlain Print arguments of the Substance Name This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures the beautive innerview innerview is the substance of the substance of the substance of the product of the product of the substance of Min hazardous ingredients all less than 4-1% and carringings at last shan 4-11% are considered non-hazardous. Pieses refer to the individual material safety data sheets for hazard information specific to kit components. • Array Sildes MSDS • Array Blocking Buffer MSDS • Array Buffer Buffer Arships • Array Buffer Buffer Buffer Arships • Array Buffer Buffer Buffer Arships • Array Buffer Buffer B

- Array wesar BUIRER MSUS
 Detection Antibody Cocktail MSDS
 HRP-linked Streptavidin MSDS (Kit 7982 only)
 DyLight 680[®]-linked Steptavidin MSDS (Kit 7949 only)
 20X LumiGLO & 20X Peroxide (CST#7003) MSDS

III. Hazard Identification:

Emergency Overview: Not considered hazardious: Not expected to produce significant adverse health effects when the recomm for use are followed. No known significant effects or critical hazards. ended instruction

IV. First Aid Measures:

Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with scap and water. If irritation develops or persists, get medical

Eve exposure: Immediately flush eves water for at least 15 minutes. Get medical attention. V. Fire Fighting Measures:

Flash Point: Not applicable. Autoignition Temperature: Not applicable.

Autogramment - Explosion: Not applicable. Fire extinguishing media: Water spray, dry chemical, alcohol foam, or carbon Firefighting: Ware protective clothing and self-contained breathing apparatus to contact with skin and eyes. Specific Hazard: None

ignaling

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com Cell Signaling

Material Safety Data Sheet (MSDS) for PathScan® Antibody Array Glass/Nitrocellulose Slides (with immobilized antibodies)

I. Identification:

Product name: PathScan® Antibody Array Glass/Nitrocellulose Slides (with immobilized antibodies) Product Catalog: 7949, 7942, 7942, 714 Manufacturer Supplier: Cell Signaling Technology 3 Trask Lane

3 Irask Lane Danvers, MA 01923 USA 978-867-2300 TEL 978-867-2400 FAX 978-578-6737 EMERGENCY TEL

II. Composition/Information:

This product is For Research Use Only. There are no ingredients present that, within the current knowledge of the supplier and in the concentrations applicable, are classified as heardous to health or the environment and hence require reporting in this section. III. Hazard Identification: OSHA: Not considered hazardous. Potential Health Effects: No known significant effects of critical hazards.

IV. First Aid Measures: Inhalation: Remove to Irenha it Ir brathing is difficult get medical attention. Ingestion: Ir prosporter: Wash skin with scap and water. If I intellical attention. Skin exposure: Wash skin with scap and water. II initiation develops or persists, get medica vitantion. Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention

V. Fire Fighting Measures:

Flash Point: Nof applicable. Autoignition Temperature: Not applicable. Explosion: Not applicable.

Expression: not applicable. Fire extinguishing media: Water spray, dry chemical, foam, or carbon dioxide. Firefighting: Wear protective clothing and self-contained breathing apparatus to prevent Specific Hazard: None.

VI. Accidental Release Measures: Wear appropriate personal protective equipment as indicated in Section VIII. Absorb liquid with an absorbent material.

protective equipment as indicated in section VIII. Absorb inquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal. VII. Handling And Storage: Store at 4°C in tightly closed container. Do not breathe vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

VIII. Exposure Controls/Personal: Ventilation System: A system of local (fume hood) and gener n of local (fume hood) and general exhaust is recommended. Skin Protection: Wear compatible chemical resistant gloves and protective clothing. Eye protection: Wear chemical safety goggles. Maintain emergency eyewash and sh

data not available

IX Physical And Chemical Properties

	IA. Physical And Chemi	car Propert
	Appearance:	solid
	Odor:	data not available
	pH:	data not available
5	Boiling Point:	data not available
	Melting Point:	data not available
	Freezing Point:	data not available
	Volatile Organic Compounds (VOC):	data not available
	Autoignition temp.:	data not available

Solubility in water:

ë

0003

X. Stability and Reactivity: Condition s/materials to avoid: Data not available. Hazardous Decomposition: Data not available. Hazardous polymerization: Should not occur under normal condition of storage and use.

XI. Toxicological Information: cal, physical, and toxicological properties have not

been thoroughly investigated. Routes of Exposure: Skin Exposure: Data not available. Eye Exposure: Data not available. Inhalation: Data not available. Ingestion: Data not available.

XII. Ecological Information: Data not available.

XIII. Disposal Considerations: Dispose of in accordance with federal, state and local environmental regulations. This product is not considered bazardous waste

XIV. Transport Information: DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information:

EU: Not cla OSHA: Not Canadian DSL: Not List SARA 302, 313: Not List

SARA 311/312: Not Lis Massachusetts Right To Know: Not Listed. Pennsylvania Right To Know: Not Listed. New Jersey Right To Know: Not Listed. California Prop. 65: Not Listed.

Orders # 877-616-CELL (2355) orders@cellsignal.com Support # 877-678-TECH (8324) info@cellsignal.com Web # www.cellsignal.com

XVI. Other Information: This products not intended for use in humans. To the best of our knowledge, this document is succent. It is intended to serve as a guide for safe use of this product in a bioratory setting by experienced personnel. The turber of safe use of this intential rests entirely with the user. The biore information is believed to be accurate by not increasively all inclusive and safe turber information is believed to be accurate with the door. These succentry parts and the safety of a soft and the safety of a soft and the safety of a safety of the safet

I! CAUTION: This product is not for use in humans. It is intended for research purposes only. To the best of our knowledge, the chemical, physical, and toxicological properties of this mate-rial have not been established. Emergency Overview : Emergen Science Frank Harmil by Ingestion. Initiat. Potential Health Effects: Inibiatation: My be harmful if inhaled. Causes respiratory tract initiation. Eye Contact: Causes eye irritation. Risk of damage to eyes. Skin Contact: May be harmful if absorbed through skin. Causes skin irritation.

contact with skin and eyes. Specific Hazard: None.

#9803 MSDS

L. Identification:

ered non-hazardous. Hazardous Reagent: 20X LumiGLO

III. Hazard Identification:

V. Fire Fighting Measures:

VI. Accidental Release Measures:

VII. Handling And Storage:

Ingredient

Ingestion: Harmful if sv

Inhalation: R

ē.

naling

02005



Catalog: 7949, 7942 Kits cturer Supplier: Cell Signaling Technology 3 Trask Lane Danvers, MA 01923 USA 978-867-2300 TEL 978-867-2400 FAX 978-578-6737 EMERGENCY TEL

CASF: None This product Is For Research Use Only. According to 29 CFR 1910.1200(d), midures with hazardous ingradients at less than - (1% and carcinogens at less than - 0.1% are considered non-hazardous. Please refer to the individual material safety data sheets for hazari information specific to kit components. - Array Sildsen KNSIS - Old Lysis Buffer (CSST 99003) MSDS - Array Diluxet Buffer MSDS

III. Hazard Identification:

Flash Point: Not applicable

Cell Lysis Buffer (10X)

Product name: Cell Lysis Buffer (10X) Product Calalog: 9803 C&Sa number: No episicale to mixtures Manufacturer Supplier: Cell Signaling Technology 3 Trask Line Der State State State State State State 1978-987 2000 TEL 1978-978-07327 Emergency Phone

II. Composition/Information on Ingredients:

Triton X-100 (polyethylene glycol octylphenol ether) 1% 9002-93-1

This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures with hazardous ingredients at less than <1% and carcinogens at less than <0.1% are consid

IV. First Aid Measures for hazardous ingredient: a X-100 (polyethylene glycol octylphenol ether):

Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: DO NOT INDUCE VOMITING. If person is conscious, wash out mouth with

water. Get medical attention. Skin contact: Wash skin with scap or mild detergent and water for at least 15 minutes. If initiation develops or persists, get medical attention. Eye contact: Immediately flush eyes water for at least 15 minutes. Get medical attention.

Verified and the available Autoignition Temperature: dati not available Explosion: dati not available Fire extinguishing media: welf spray, day chemical, toam, or carbon dioxide. Fireflabilities were introduce doning and electrative do available contact with skin and eyes. May emit toxic turnes under fire conditions.

Wear appropriate personal protective equipment as indicated in Section 8. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

Store at 4°C in tightly closed container. Avoid inhalation of vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

Percent CAS#

I. Identification:

Product name: PathScan® RTK Signaling Antibody Array Kit Product Catalog: 7949, 7982 Kits

II. Composition/Information: Substance Name: PathScan® RTK Signaling Antibody .-ndv Δrrav Kit

ts for hazard

Material Safety Data Sheet (MSDS) for

PathScan® RTK Signaling Antibody Array Kit

Array Vash Buffer MSUS
Array Vash Buffer MSUS
Detection Antibody Cocktail MSDS
HRP-Iniked Streptavidin MSDS (Kit 7982 only)
UpUtpht 80%-Iniked Steptavidin MSDS (Kit 7949 only)
20X LumiGLO & 20X Peroxide (CST#7003) MSDS

Emergency Overview: Not considered hazardous. Not cospected to produce significant adverse health effects when the recommended instructions for use are followed. No known significant effects or critical hazards.

IV. First Aid Measures:

Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with soap and water. If irritation develops or persists, get medical Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention.

V. Fire Fighting Measures:

Flash Point: Not applicable. Autoignition Temperature: Not applicable. Explosion: Not applicable. Fire extinguishing media: Waler spray, dry chemical, alcohol foam, or carbon dioxide Firefighting: Ware protective clothing and self-contained breathing apparatus to prevent

VI. Accidental Release Measures: Wear appropriate personal protective equipment as indicated in Section VIII. Masorth liquid with an absorbert material. Transfer contaminated absorbert to a closed chemical waste container for disposal. Wash spill shall alter material has been picked up for disposal.

Cell Signaling

VII. Handling And Storage:

VIII - XIII. Refer to individual MSDS for kit components for Sections 8-13 informa-tion: Exposure Controls/Personal Protection, Physical and Chemical Properties, Stability and Reactivity, Toxicological Information, Ecological information, Disposal Considerations.

XIV. Transport Information:

Proper Shipping Name: None. This substance is considered Non-Hazardous for transport. IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information: EU Regulations/Classifications: Xi. Initari. Risk Phrases: Irinari. Initaring to eyes and skini. Harmful if swallowed. Safety Phrases: In case of contact was within water and seek medical attention. US Regulatory Information: Irritani.

XVI. Other Information:

A via oblicit infinited for use in humans. To the best of our knowledge, this document is accurate. It is intended to use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a blocatory setting by experiencing presents. The burden of safe use of this material restrictly with the use. The above information is believed to be accurate but is not necessarily all-inclusive and stall be used only as a guide. Cell Signaling Technology, Inc. shall not be theid lable for any damage resulting from the handing of or from contact with the above product.

VIII. Exposure Controls/Personal Ventilation System: a system of local (tune hood) and general exhaust is recomme Skin Protection: wear compatible chemical resistant (joves and protective clothing. Eye protection: wear chemical safety goggles. Maintain emergency eyewash and sho

Stability: Stable under ordinary conditions. Sconditions/materials to avoid: strong oxidizing agents, strong acids, strong bases Hazardous Decomposition: carbon monoxide, carbon dioxide.

colorless liquid data not availabl

data not available

data not available data not available data not available data not available data not available

data not available Soluble in water

IX. Physical and Chemical Properties

TECHNOLOGY®

. al exhaust is recommended

ironmental regulations. Contact a

duct

Material Safety Data Sheet (MSDS) for 🖗 Cell Signaling

Appearance: Odor:

Autoignition temp. Solubility (water):

PH: Boiling Point: Melting or Freezing Point: Flash Point: Volatile Organic Compounds (VOC):

X. Stability and Reactivity:

Hazardous polymerization: will not occur

Acute toxicity: data not available

XI. Toxicological Information:

XII. Ecological Information:

XIII. Disposal Considerations:

XIV. Transport Information:

XV. Regulatory Information:

XVI. Other Information:

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com

Acute torcicly: dah nd available Chronic exposer: dah nd available Potential Health Effects: Inhalation: Mye barnmful if aboded clauses respiratory tract irritation. Skin: Mye barnmful if aboded through skin. Causes skin irritation. Eyes: Causes ege irritation. Ingestion: Harmful if swallowed.

Dispose of in accordance with federal, state and local environmental re licensed professional waste disposal service to dispose of this material

EU: Not classified OSH- horpsdimit Triton X100, CAS/49002-49-1: Harmful by ingestion, Initiant Canadian DSL: Listed: Ingestieding Triton X100, CAS/49002-49-1 SAPA 302, 313 groupdients Not Listed. SAPA 311/312: Ingredient Triton X100, CAS/49002-49-1: Acute Health Hazard MasschusstR: Bright To Krowir Ingredient Triton X100, CAS/49002-49-1 wei versy Right To Krowir Ingredient Triton X100, CAS/49002-49-1 California Prop. 65: Ingredients Not Listed.

A vi. Unter information: This product is for research use only and is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this pro-in a laboratory setting by experienced personnel. The burden of safe use of this material rests

In a locuration y setting by experienced personner. The outperior of safe use of nin international resis entricely with the user. The above information is believed to be accurate but is not necessarily all-in-clusive and shall be used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

D.O.T. Proper Shipping Name: None. This substance is considered non-hazardous for transport. IATA Proper Shipping Name: None. This substance is considered non-hazardous for air transport.

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com



Cell Signaling

data not available data not available

data not available

data not available

data not available

ical, and toxicological properties have not been

soluble in water

Stability: Stabie." Conditions/materials to avoid: Data not available. Hazardous Decomposition: Data not available. Hazardous polymerization: should not occur under normal condition of storage and use.

XIII. Disposal Considerations: Dispose of in accordance with federal, etale and local environmental resultations. This product is not considered hazardous waste.

Massachusetts Right To Know: Not Listed. Pennsylvania Right To Know: Not Listed. New Jersey Right To Know: Not Listed. California Prop. 65: Not Listed.

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide or selve are of this product in a laboratory setting by experienced personnel. The burden of sale use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and dhall be uses only as a guide. Cell Signaling Technology, Inc., shall not be held lable for any damage resulting from the handing or to rimo contact with the above product.

ns. To the best of our knowledge, this docum

IX. Physical And Chemical Properties

Volatile Organic Compounds (VOC): data not available

X. Stability and Reactivity:

XI. Toxicological Information:

Skin Exposure: No known significant eireixis or critical hazards Eye Exposure: No known significant effects of critical hazards Inhalation: No known significant effects of critical hazards. Ingestion: No known significant effects of critical hazards.

XIV. Transport Information:

XV. Regulatory Information:

XVI. Other Information:

OSHA: Not lister

Canadian DSL: Not Listed. SARA 302, 313: Not Listed SARA 311/312: Not Listed.

XII. Ecological Information: No data available.

DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

thoroughly investigated. Potential Health Effects: No known significant effects of critical hazards. Routes of Exposure: Skin Exposure: No known significant effects of critical hazards.

Appearance: Odor: pH: Boiling Point:

Melting Point:

Freezing Point

Autoignition temp.:

Solubility in water:

I. Identification: Product name: PathScan® Antibody Array Blocking Buffer Product Catalog: 7949, 7982 Kit Component C&S#: None Manufacturer Supplier: Cell Signaling Technology 3 Task Anne Damese, MA 01922 USA 1998 Act 2010 Danvers, MA 0192 978-867-2300 TEI 978-867-2400 FAX 978-578-6737 EMERGENCY TEL II. Composition/Information: This product Is For Research Use Only. There are to ingredients present that, within the current knowledge of the supplier and in the concentrations applicable, are classified as huardous to health or the environment and hence require reporting in this section. III. Hazard Identification: OSHA: Not considered hazardous. Potential Health Effects: No known significant effects of critical hazards. Routes of Exposure: Skin Exposure: No known significant effects of critical hazards. Exposure: No known significant effects of critical hazards Inhalation: No known significant effects of critical hazards. Ingestion: No known significant effects of critical hazards. IV. First Aid Measures: 1.V. FILSE AND INFOSULTES. Inhalation: Remove firesh air, If breaking is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with scap and water. If irritation develops or persists, get medical attention. Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention. V. Fire Fighting Measures: Flash Point: Not application Autoignition Temperatur Explosion: Not applicable Fire extinguishing med Firefighting: Wear protect contact with skin and eyes. am, or carbon dioxide. breathing apparatus to prevent Specific Hazard: None.

S: Wear appropriate personal iquid with an absorbent material. te container for disposal. Wash spill VI Accidental Transfer contaminated abs site after material has been

VII. Handling

eyes, skin, and clothing. Wash thoroughly after handling.

VIII. Exposure Controls/Personal:

ġ

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com

Material Safety Data Sheet (MSDS) for PathScan[®] Antibody Array Wash Buffer

I. Identification:
Product name: PathScan® Antibody Array Wash Buffer Product Catalog: 7949, 7982 Kit Component Manufacturer Supplier: Cell Signaling Technology
3 Trask Lane Danvers, MA 01923 USA

978-867-2300 TEL 978-867-2400 FAX 978-578-6737 EMERGENCY TEL II. Composition/Information: This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures with hazardous ingredients at less than <1% and carcinogens at less than <0.1% are considered non-treatrous.

Ingredients:	Percent	CAS#
Tween20	2%	9005-64-5
Non-hazardous 20X phosphate buffered saline	98%	none

III. Hazard Identification:

No known nazaros. **This product is not for use in humans. It is intended for research purposes only.** To the best of our knowledge, the chemical, physical, and toxicological properties of this our knowledge, the cl not been established.

IV. First Aid Measures:

1 v. TITSU ALLU INICASUITES: Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with soap and water. If irritation develops or persists, get medical developed.

Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention

V. Fire Fighting Measures:

Flash Point: Noi applicable. Autiophtion Temperature: Noi applicable. Explosion: Noi applicable. Fire extinguishing media: Wales spray, dry chemical, alcohol foam, or carbon dioxide Firfeighting: Ware protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes. Specific Hazard: None.

ġ

VI. Accidental Release Measures: Wer appropriate personal protective equipment as indicated in Section VIII. Alsorib liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal.

VII. Handling And Storage: Store at 4°C in tightly closed container. Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

VIII. Exposure Controls/Personal:

VIII. EXDOSUTE CONTROLS/PERSONAL Ventilation System: A system of local (true hood) and general exhaust is recommen Skin Protection: Wear compatible chemical resistant gloves and protective clothing. Eye protection: Wear chemical safety goggles. Maintain emergency eyewash and sho ended. wer in work area.

ure: Not applicable.
e.
dia: Water spray, dry chemical, foa
ctive clothing and self-contained b
L.
I Release Measures: adicated in Section VIII. Absorb liqu
orbent to a closed chemical waste n picked up for disposal.

Ventilation System: A system to local (ture hour) and general exhaust is recommended. Skin Protection: Wear compatible chemical resistant gloves and protective clothing. Eve protection: Wear chemical safety goggles. Maintain emergency eyewash and shower is work area.

Appearance: Odor: pH: data not available . Boiling Point data not available Melting Point: data not available Freezing Point: Volatile Organic Compounds (VOC): data not available data not available data not available Solubility in water: data not available

X. Stability and Reactivity:

Stability: Stable. Conditions/materials to avoid: Data not available Hazardous Decomposition: Data not available. Hazardous polymerization: Will not occur. Stability: Condition

XI. Toxicological Information:

Routes of Exposure: Skin Exposure: May case skin irritation. May be harmful if absorbed through skin. Eye Exposure: May cause eye irritation. Imhalation: May be harmful if inhaled. Material may be irritating to muccus membrane and

upper respiratory tract. I**ngestion:** May be harmful if swallowed.

To the best of our knowledge, the chemical, physical, and toxicological properties have not seen thoroughly investigated.

XII. Ecological Information: No data available.

XIII. Disposal Considerations: Dispose of in accordance with federal. rvice to dispose of this material

XIV. Transport Information: DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

ITTIS automatics in a second s

XV. Regulatory Information: EU: Not classified

OSHA: No known hazards Canadian DSL: Not Listed. SARA 302, 313: Not Listed. SARA 311/312: Not Listed.

Nassachusets Right To Know: Not Listed. Pennsylvania Right To Know: Not Listed. New Jersey Right To Know: Not Listed. California Prop. 65: Not Listed.

XVI. Other Information:

Xv1. Other Information: This products for directed for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a baboratory sating by experienced personnel. The burden of a sale on this interview and serve with the uses. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Cell Signaling Technology, hc., shall not be held liable for any damage reading from the handling of a from contact with the above product.

Material Safety Data Sheet (MSDS) for PathScan® Antibody Array Diluent Buffer

a to 29 CFR 1910.1200(d). mixtures with

CAS#

none

9048-46-8

9005-64-5

55965-84-9

Percent

5% <1% <0.5% >95%

I. Identification:

Ingredients:

Kathon

Bovine serum albumin Tween20

OSHA: No known baz

Non-hazardous phosphate buffered saline

IV. First Aid Measures:

V. Fire Fighting Measures:

Product name: PathScan[®] Antibody Array Diluent Buffer Product Catalog: 7949, 7982 Kit Component Manufacturer Supplier: Cell Signaling Technology 3 Task Lane Danvers, MA 01922 USA 978-987-2930 TEV

978-867-2400 FAX 978-578-6737 EMERGENCY TEL

III. Hazard Identification: This product is not for use in humans. It is intended for research purposes only. To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not bene stabilished.

Usher, we assume the Characteristic for the second second

1. FISC FAILS FAILS INCOMENTS. Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: It person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with soap and water. If irritation develops or persists, get medical interview.

Eve exposure: Immediately flush eves water for at least 15 minutes. Get medical attention.

Flash Point: Not applicable. Explosion: Not applicable. Explosion: Not applicable. Fire actinguishing meetiar: Nate spray, dry chemical, alcohol fram, or carbon dio Pirelighting: Votar protective clothing and self-contained breathing apparatus to pre contact with Skin and cyes. Specific Heazard: None.

VI. Accidental Release Measures: Wear appropriate pers

VIII. Exposure Controls/Personal:

Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal. VII. Handling And Storage: Store at 4°C in tightly closed container. Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposure.

Ventilation System: A system to local (ture hourd) and general exhaust is recommended. Skin Protection: Wear compatible chemical resistant gloves and protective clothing. Eve protection: Wear chemical safety goggles. Maintain emergency eyewash and shower in work area

II. Composition/Information: This product is For Research Use Only. According to 29 CFR 1910.1200(d), r hazardous ingredients at less than <1% and carcinogens at less than <0.1% are con non-hazardous.

🖗 Cell Signaling

IX. Physical And Chemical Properties

Appearance:	colorless liquid
Odor:	data not available
pH:	data not available
Boiling Point:	data not available
Melting Point:	data not available
Freezing Point:	data not available
Volatile Organic Compounds (VOC):	data not available
Autoignition temp.:	data not available
Solubility in water:	data not available

X. Stability and Reactivity:

Stability: Stable under normal conditions. Conditions/materials to avoid: Data not available. Hazardous Decomposition: Data not available. Hazardous polymerization: Will not occur.

XI. Toxicological Information:

and toxicological properties have not been thoroughly investigated

Routes of Exposure: Skin Exposure: May case skin irritation. May be harmful if absorbed through skin. Experimental and the second se er respiratory tract. estion: May be harmful if swallowed.

Toxicity information on hazardous Ingredient Kathon (0.5%), CAS#55965-84-9 LD50 Mouse Oral: 60 mg/kg LD50 Rat Oral: 53 mg/kg

XII. Ecological Information: No data available

XIII. Disposal Considerations: Dispose of in accordance with federal, and local environmental regu-ice to dispose of this material.

XIV. Transport Information:

DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information: EI: logistic Kithon CASE 5056 54-0 Annex (Lister Index + 613-167-00.5 0.5% Kuthon concentration classification: X: Initiant R3688-45-5253 R8668; War suitable poterbic dotting gloves and eye/haz protection R43: Way cause indicational by sin contract. R53: Way cause indication by sin contract.

Appearance: Odor:

Stability: Sta

udor: pH: Boiling Point: Melting Point: Freezing Point: Volatile Organic Compounds (VOC): Autoignition temp.: Solubility in water:

X. Stability and Reactivity:

Stability: Stable. Conditions/materials to avoid: Bases, oxidizing agents. Hazardous Decomposition: Data not available. Hazardous polymerization: Will not occur.

XI. Toxicological Information:

respiratory tract. Ingestion: May be harmful if swallowed.

to dispose of this material.

BS3: May cause long-tem adverse effects in the aquatic environment. OSH: No known brazeds. Canadian DSL: Not Listed. SARA 302, 335: Not Listed. SARA 317102: Not Listed. MassachustER: Bajhol Ya Know: Not Listed. Pennsylvania Right To Know: Not Listed. New Jersey Right To Know: Not Listed. California Prop. 65: Not Listed. XVI. Other Information:

XVI. Other Information: This product is no indexed for use in humans. To the best of our knowledge, this document is accurate. It is intended to user as a guide for safe use of this product in a bloordary setting by experimenting personnel. The brucher of safe use of this material estimative with less. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Call Signaling Technology, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com

IX. Physical And Chemical Properties



colorless liquid

data not available

data not available

data not available data not available data not available data not available data not available data not available

data not available

Routes of Exposure: Skin Exposure: May case skin irritation. May be harmful if absorbed through skin. Eye Exposure: May case sye irritation. Inhalation: May be harmful if inhaled. Material may be irritating to mucous membrane and upper

Toxicity information on hazardous Ingredient Kathon (0.5%), CAS#55965-84-9 LD50 Mouse Oral: 60 mg/kg LD50 Rat Oral: 53 mg/kg

XIII. Disposal Considerations: Dispose of in accordance with fer

XII. Ecological Information: No data available.

XIV. Transport Information: DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

The may cause senaration of sen contact. RS3: May cause long-term adverse effects in the aquatic environment. OSHA: No known hazards. Canadian DS1: Not Listed.

XVI. Other Information:

XV. Regulatory Information: EU: Ingretient Kathon CAS# 55865-84-9 Annex I Listed: Index # 613-167-00-5 0.5% Kathon concentration classification: X: Initiant. R58/38-43-52C3 R58/38: Ware suble protective claiming, gloves and eye/face protection R43: May cause sensitization by skin contact.

SARA 311/312: Not Listed. Massachusetts Right To Know: Not Listed. Pennsylvania Right To Know: Not Listed. New Jersey Right To Know: Not Listed. California Prop. 65: Not Listed.

, and toxicological properties have not been

Material Safety Data Sheet (MSDS) for PathScan® Antibody Array **Detection Antibody Cocktail**

I. Identification:

2009

Product name: PathScan[®] Antibody Array Detection Antibody Cocktail Product Catalog: 7949, 7982 Kit Component Manufacturer Supplier: Cell Signaling Technology 3 Trask Lane

978-578-6737 EMERGENCY TEL I. Composition/Information:	
978-867-2400 FAX	
978-867-2300 TEL	
Danvers, MA 01923 USA	

This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures with bazardous incredients at less than _0 1% and carcinonens at less than _0 1% are considered non-hazardous

Ingredients:	Percent	CAS#
Bovine Saline Albumin	5%	9048-46-8
Tween20	<1%	9005-64-5
Kathon	<0.5%	55965-84-9
Immunoglobulin	<0.1%	none
Non-hazardous phosphate buffered saline	>95%	none

III. Hazard Identification: The Trazer of Trazer of

EU: Influent National Constraints of the State of the State of the State of Exposure May case in irritation. May be harmful if absorbed through skin. State Exposure: May case eye irritation. Inhalation: May be harmful if inhaled. Material may be irritating to mucous membrane and upper respiratory tract. Ingestion: May be harmful if swallowed.

IV. First Aid Measures:

1 v. FITSL FAID IVICEASUTCS: Inhalation: Remove to Iresh air. If breathing is difficult, get medical attention. Ingestion: It person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with soap and water. If irritation develops or persists, get medical intention. Eve exposure: Immediately flush eves water for at least 15 minutes. Get medical attention.

V. Fire Fighting Measures: Flash Point: Not applicable. Autoignition Temperature: Not applicable.

Europarticle Temperature: Involutional Europartic Europart Eur Specific Hazard: None.

VI. Accidental Release Measures: Wear appropriate perso protective equipment as indicated in Section VIII. Absorb liquid with an absorbent material. Transfer contaminated absorbent to a closed chemical waste container for disposal. Wash spill site after material has been picked up for disposal. Stit diter intervention of the state of the

Store at 4°C in tightly closed container. Do not breathe vapor. Avoid contact with ey and clothing. Wash thoroughly after handling. Avoid prolonged or repeated exposu VIII. Exposure Controls/Personal: Ventilation System: A system local (ture hood) and general exhaust is recommended. Skin Protection: Wear compatible chemical resistant gloves and protective clothing. Eve protection: Wear chemical safety goggles. Maintain emergency eyewash and shower in work area © 2009 Cell

XVI. Other Information: This product is on indended for use in humans. To the best of our knowledge, this document is accurate it is intended to use we as quice for safe use of this product in a kinotarity setting by experienced personand. The knowled of each out this material real exterility with the user. The above information is believed to be accurate but is not exceeding exterility and the used only as a guide. Cell Signaling Technology, Inc., shall not be held liable for any damage resulting time the handling of utime contail with the above product.

IX. Physical And Chemical Properties colorless liquid data not available

💱 Cell Signaling



Material Safety Data Sheet (MSDS) for PathScan® Antibody Array **HRP-linked Streptavidin**

I. Identification:

Product name: PathScan® Antibody Array HRP-linked Streptavidin Product Catalog: 7982 Kit component C&S®: None Manufacturer Supplier: Cell Signaling Technology

2 Cell Signaling lechnology 3 Trask Lane Darwers, MA 01923 USA 978-867-2000 TEL 978-867-2400 FAX 978-578-6737 EMERGENCY TEL

II. Composition/Information: This product is For Research Use Only. There are no ingredients present that, within the current knowledge of the supplier and in the concentrations applicable, are classified as haradrous in behavior. III. Hazard Identification:

OSHA: Not consid Potential Health Routes of Expose Not considered hazardous. ial Health Effects: No known significant effects of critical hazards. Routes of Exposure: Skin Exposure: No known significant effects of critical hazards. Eye Exposure: No known significant effects of critical hazards. Inhalation: No known significant effects of critical hazards. Ingestion: No known significant effects of critical hazards.

IV. First Aid Measures: Inhalation: Remove to Irshia it it Breathing is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin ergosare: Wash skin with soap and water. If irritation develops or persists, get medical Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention.

V. Fire Fighting Measures:

Flash Point: Not applicable. Autoignition Temperature: Not applicable. Explosion: Not applicable.

Explosion: Not applicable: Fire extinguishing media: Water spray, dry chemical, toam, or carbon dioxide. Firefighting: Water protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes. Specific Hazard: None.

VI. Accidental Release Measures: Wear appropriate personal protective equipment as indicated in Section VIII. Absorb liquid with an absorbent materia transfer contaminated absorbent to a closed chemical waste container for disposal. Wash site after material has been picked up for disposal.

VII. Handling And Storage: Store at 4°C in tightly closed container. Avoid contact v thoroughly after handling. Avoid prolonged or repeated

VIII. Exposure Controls/Personal: Ventilation System: A system of local (fume hood) and general exhaust is recommen Skin Protection: Wear compatible chemical resistant (joves and protective clothing. Eve protection: Wear chemical safety goggles. Maintain emergency eyewash and show the new endowney of the state of th . eral exhaust is recommended

IX. Physical And Chemical Properties Appearance: Odor: odorless data not available pH: Boiling Point: pri: dda nd avaidabe Bolling Point: dda nd avaidabe Metting Point: dda nd avaidabe Freezing Point: dda nd avaidabe Volatie Organic Compounds (VOC): dda nd avaidabe Xudognition temp.: dda nd avaidabe Solubility in water: soluble in water

X. Stability and Reactivity: Conditions/materials to avoid: Data not available.

Hazardous Decomposition: Data not available. Hazardous polymerization: should not occur under normal condition of storage and use

🗱 Cell Signaling

XI. Toxicological Information: To the best of our knowledge, the chemical, physical, and toxicological properties have not

been thoroughly investigated. Potential Health Effects: No known significant effects of critical hazards. Potential result creats, no water of Routes of Exposure: Skin Exposure: No known significant effects of critical hazards. Eye Exposure: No known significant effects of critical hazards. Ingestion: No known significant effects of critical hazards.

XII. Ecological Information: Data not available.

XIII. Disposal Considerations: Dispose of in accordance with federal, state and lucal environmental regulations. This product is not considered hazardous waste.

XIV. Transport Information: DOT: Proper Shipping Name: None. This substance is considered Non-Hazardous for transport.

IATA: Proper Shipping Name: None. This substance is considered Non-Hazardous for air transport.

XV. Regulatory Information: EU: Not classified OSHA: No known hazards.

Correct, no Normin Lada Las. Canadian DEL: Nucl. Utiledi. SARA 302, 512: Not Listid. SARA 311(21: Nucl. Listid. Massachusetts Right To Know: Not Listid. Pennsylvania Right To Know: Not Listid. New Jersey Right To Know: Not Listid. California Prop. 65: Not Listid.

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com

XVI. Other Information: This product is not interded for use in humans. To the best of our knowledge, this document is accurate. It is interded to serve as a guide to sale use of this inproduct in a laboratory setting by experienced personnel. The burden of sale use of this material rests entityly with the use. The above information is believed to be accurate bit is not necessarily all-inclusive and tables used only as a guide. Call Signaling Technology, Inc., Jahl not be held label for any damage resulting from the handling of or tim contract with the above product.



Percent CAS#

≤20%

67-68-5

L. Identification:

Hazardous Reagent: Dimethyl sulfoxide

III. Hazard Identification:

cause skin irritation. Ingestion: May be harmful if swallowed.

IV. First Aid Measures:

V. Fire Fighting Measures:

VI. Accidental Release Measures:

VII. Handling And Storage:

after handling. Avoid prolonged or repeated exposure

Cell

VIII. Exposure Controls/Personal

Flash Point: N/A Autoignition Temperature: N/A Explosion: N/A

hazardous

Product name: 20X LumiGLO® and 20X Peroxide Product Catalog: 7003 CAS number: Not Castalog: 7003 Manufacturer Suppler: Cell Signaling Technology Manufacturer Suppler: Mark Lane Darwers, MA 01622 USA 1-078-807-2000 TEL 1-078-807-2000 FAX 1-078-570-6737 Emergency TEL

II. Composition/Information on Ingredients:

Emergency Overview: Irritant, Irritating to eves, respiratory system, skin,

This product is For Research Use Only. According to 29 CFR 1910.1200(d), mixtures with hazardous ingredients at less than <1% and carcinogens at less than <0.1% are considered non

CAUTION: This product is not for use in humans. It is intended for research purposes only. To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been established.

Potential Health Effects: Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. Eye Contact: Way use segve irritation. Skin Contact: May be harmful if absorbed through skin. Prolonged or repeated contact may

Inhalation: Remove to fresh air. If breathing is difficult, get medical attention. Ingestion: If person is conscious, wash out mouth with water. Get medical attention. Skin exposure: Wash skin with soap and water. If irritation develops or persists, get medical

Eye exposure: Immediately flush eyes water for at least 15 minutes. Get medical attention.

Expression row-Fire extinguishing media: water spray, dry chemical, alcohol foam, or carbon dioxide. Firelighting: wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes. May emit toxic fumes under fire conditions.

Wear appropriate personal protective equipment as indicated in Section VIII. Absorb liquid with an absorbern material. Transfer contaminated absorbent to a closed chemical waste container f disposal. Wash spill site after material has been picked up for disposal.

Store at 4°C in tightly closed container. Avoid inhalation of vapor or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly

Ventilation System: a system of local and/or general exhaust is recommended. Skin Protection: war compatible chemical resistant gloves and protective clothing. Eye protection: wear protective safety glasses or chemical safety goggles. Maintain eye wash fountain and quick-denoch facilities in work area.

Cell Signaling

IX. Physical And Chemical Properties:

Appearance:	clear faint yellow colore
Odor:	data not available
pH:	data not available
Boiling Point:	>100°C/212"F (water)
Melting or Freezing Point:	<0"C/32'F (water)
Flash Point:	data not available
Volatile Organic Compounds (VOC):	data not available
Autoignition temp.	data not available
Solubility (water)	miscible in water

X. Stability and Reactivity:

Stability: Stable under normal conditions. Conditions to avoid: strong oxidizing agents, strong acids, strong bases Hazardous Decomposition: carbon monoxide, carbon dioxide. Hazardous polymerization: will not occur.

XI. Toxicological Information:

Acute toxicity: data not available. Chronic exposure: data not available Productionally, user incrementation, on one coposition can not even and Potential Health Effects: Initialation: May be harmful if inhaled. Causes respiratory tract irritation. Skin: May be harmful if absorbed through skin. Causes skin irritation. Eyes: Causes ge irritation. Ingestion: Harmful if swallowed. Toxicity Data on Hazardous ingredient Dimethyl Sulfoxide, CAS#67-68-5 RTECS: PV6210000 LD50 Oral rat 14,500 mg/kg LD50 Infraltion at 4 h 40250 ppm LD50 Dermal rabbit > 5,000 mg/kg

XII. Ecological Information: No data available.

XIII. Disposal Considerations: Dispose of in accordance with

ions. Contact a licensed professional waste federal, state and local environmental regula disposal service to dispose of this material.

XIV. Transport Information: ne: None. This substance is considered non-hazardous for

transport. IATA Proper Shipping Name: None. This substance is considered non-hazardous for air

XV. Regulatory Information:

EU: Not classified OSH4: horgedinet Dimethyl Sulfoxide, CAS/67-68-5: Combustible Liquid, Target Organ Effect Canadian DSL: Listed: Ingredent Dimethyl Sulfoxide, CAS/67-68-5 SARA 302, 313 orgedients Not Listed. SARA 311/312: Ingredient Dimethyl Sulfoxide, CAS/67-68-5: Fire Hazard, Chronic Health

Hazard. Hazard. Massachusetts Right To Know: Ingredients Not Listed. Pennsylvania Right To Know: Ingredient Dimethyl Sulfoxide, CAS#67-68-5 New Jersey Right To Know: Ingredient Dimethyl Sulfoxide, CAS#67-68-5 California Prop. 65: Ingredients Nat Listed.

XVL Other Information:

This product is for reastarch use only and is not intended for use in humans. To the best of our knowledge, this document is accurate. It enterthanks and the server as a quice for safe use of this this product in a blandary setting by predicted personal. The burden of safe use of this material insists entirely with the use. The above information is believed to be accurate but is excessing in all-induces and staffs use and only as a quice. Call Signaling Technology, here, the second staff of the second staff of the second staff of the second but is the second staff. • ot intended for use in humans. To the best of shall not be held liable for any damage resulting from the handling of or from contact with the above product.

Orders 🔳 877-616-CELL (2355) orders@cellsignal.com Support 🔳 877-678-TECH (8324) info@cellsignal.com Web 🔳 www.cellsignal.com