

**Datasheet for S000-08****Streptavidin Phycoerythrin Conjugated****Overview**

<b>Description:</b>	Streptavidin Phycoerythrin Conjugated - S000-08
<b>Item No.:</b>	S000-08
<b>Size:</b>	1 mL
<b>Applications:</b>	Dot Blot, FC, Multiplex, Biochemical Assay, ELISA, Functional Assay, IF

**Product Details**

<b>Background:</b>	Streptavidin is a bacterial protein (from <i>Streptomyces avidinii</i> ) that has an exceptionally high binding affinity for biotin (B7). Streptavidin-biotin binding is one of the strongest known non-covalent interactions and is highly resistant to many conditions that would typically cause dissociation (such as organic solvents, denaturants, detergents, and extreme temperatures or pH). Streptavidin's affinity for biotin can be employed in a variety of experimental uses, from purifications to standards, to means of detection or pull down experiments. Phycoerythrin (PE) is a red-pigmented protein found in cyanobacteria and red algae. Phycoerythrin absorbs light blue-green/yellow light and emits lightly orange/yellow light.
<b>Synonyms:</b>	Streptavidin PE, Phyco Streptavidin, SA Phycoerythrin, R-Phycoerythrin, Phycoerythrin conjugated streptavidin
<b>Conjugate:</b>	R-Phycoerythrin (RPE)

**Target Details**

<b>Purity/Specificity:</b>	Streptavidin-Phycoerythrin was prepared from electrophoretically purified streptavidin isolated from <i>Streptomyces avidinii</i> conjugated to the chromophore R-Phycoerythrin. Free fluorochrome is removed by tandem molecular sieve chromatography.
<b>Relevant Links:</b>	<ul style="list-style-type: none"><li>• <a href="#">NCBI - CAA00084.1</a></li><li>• <a href="#">UniProtKB - P22629</a></li></ul>

**Application Details**

<b>Tested Applications:</b>	Dot Blot, FC, Multiplex
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<b>Suggested Applications:</b>	Biochemical Assay, ELISA, Functional Assay, IF (Based on references)
<b>Application Note:</b>	Phycoerythrin conjugated streptavidin has been tested by dot blot and FACS and is suitable for immunomicroscopy, flow cytometry or FACS analysis, as well as other antibody based fluorescent assays requiring extremely low background levels, absence of F(c) mediated binding, lot-to-lot consistency, high titer and specificity. The maximum amount of Streptavidin Phycoerythrin required to stain 1 x 10E6 cells in flow cytometry is approximately 1.0 µg of antibody conjugate. Lesser amounts of Streptavidin Phycoerythrin may be sufficient for staining. Optimal titers for other applications should be determined by the researcher. As a general guideline dilutions of 1:100 to 1:250 should be suitable for most applications.
<b>Assay Dilutions:</b>	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
<b>FC:</b>	1:100 - 1:250
<b>IF:</b>	1:100 - 1:250

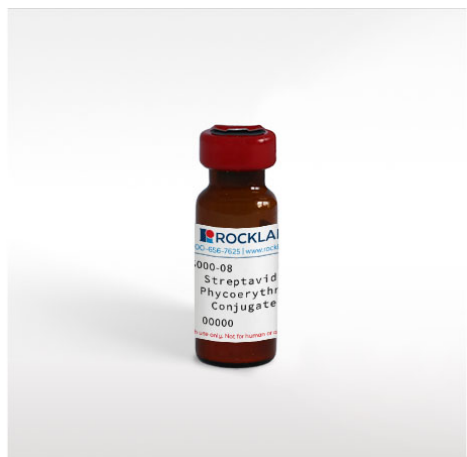
## Formulation

<b>Physical State:</b>	Lyophilized
<b>Concentration:</b>	0.5 mg/mL by UV absorbance = 82.0 at 565 nm
<b>Buffer:</b>	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
<b>Preservative:</b>	0.01% (w/v) Sodium Azide
<b>Stabilizer:</b>	10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free
<b>Reconstitution Volume:</b>	1.0 mL
<b>Reconstitution Buffer:</b>	Restore with deionized water (or equivalent)

## Shipping & Handling

<b>Shipping Condition:</b>	Ambient
<b>Storage Condition:</b>	Store vial at 4° C prior to restoration. Restore with deionized water (or equivalent). This product is stable at 4° C as an undiluted liquid. Dilute only prior to immediate use. Centrifuge product if not completely clear after standing at room temperature. Do not freeze after reconstitution. Store reagent in the dark. Use subdued lighting during handling and incubation of cells prior to analysis.
<b>Expiration:</b>	Expiration date is one (1) year from date of receipt.

## Images

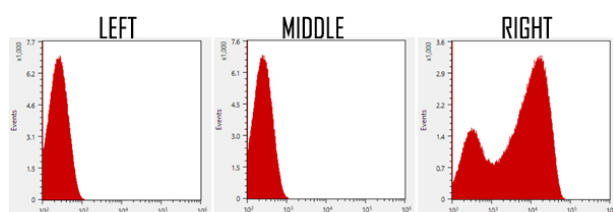


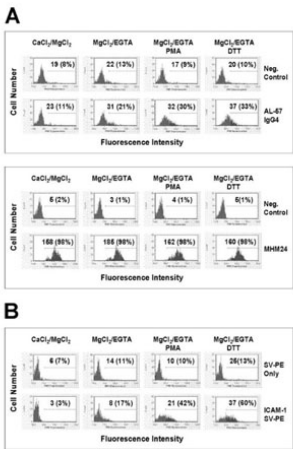
### Bottle

Streptavidin Phycoerythrin Conjugated

### Flow Cytometry

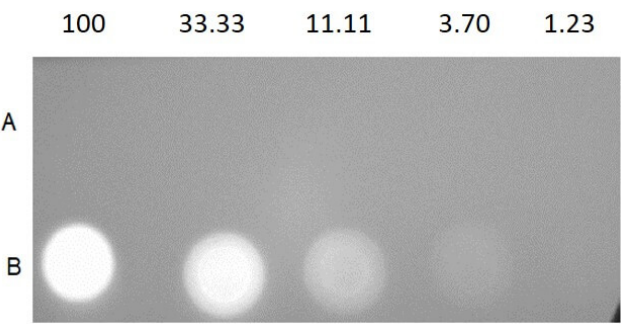
Cytoflow of Streptavidin-Phycoerythrin (p/n S000-08). Cells: Yeast *Saccharomyces cerevisiae* cells expressing surface receptor protein. [LEFT] unstained; [MIDDLE] Streptavidin-Phycoerythrin at 1:200 (negative control); [RIGHT] Streptavidin-Phycoerythrin at 1:200 with biotinylated ligand test sample.





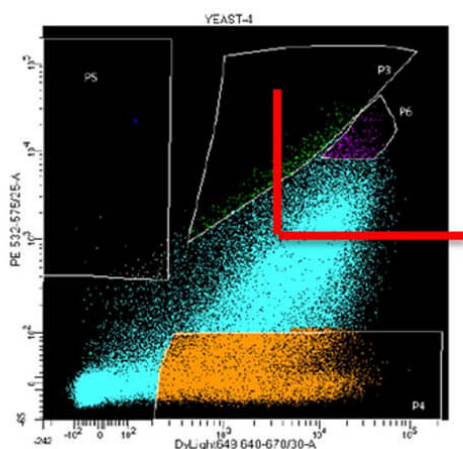
**Flow Cytometry**

AL-57 IgG4 and ICAM-1 bind to the activated HA form of LFA-1 on PBMCs. Binding of AL-57 IgG4 (A) and ICAM-1 (B) to PBMCs with inactivating buffer (CaCl<sub>2</sub>/MgCl<sub>2</sub>) or with activating buffer (MgCl<sub>2</sub>/EGTA) in the presence or absence of PMA (10 ng/ml) or DTT (500 μM) was determined by flow cytometric analysis as described in Materials and Methods. The concentration of each IgG or ICAM-1 used was 10 μg/ml. For AL-57 staining, Neg. Control indicates negative control with just the secondary PE-labeled streptavidin (p/n S000-08) antibody used for staining; MHM24 was used as a control that did not distinguish between the HA and LA forms of LFA-1. For ICAM-1 staining, a multimeric complex [ICAM-1/streptavidin (SV)-PE] of biotinylated human ICAM-1-Fc and PE-labeled streptavidin was used; SV-PE only indicates negative control with just the PE-labeled streptavidin used for staining. Shown here are representative histograms of samples under indicated conditions. The x-axis depicts the fluorescence intensity of individual cells, and the y-axis represents the cell number. The numbers shown are relative values of MFI with relative percentages of positive cells in parenthesis. Fig. 3. PMID: 16888085.



**Dot Blot**

Dot Blot of Streptavidin Phycoerythrin conjugate. Row A: BSA [10mg/mL]. Row B: BSA/Biotin [1.0mg/mL]. Column Dilutions: 100ng, 33.33ng, 11.11ng, 3.70ng, 1.23ng. Primary Antibody: Streptavidin Phycoerythrin Conjugate at 1μg/mL for 1hr at RT. Secondary Antibody: None. Blocking: BlockOut Buffer (p/n MB-073).



### Flow Cytometry

Anti-FLAG DyLight™ 649 conjugate - X-axis (p/n 200-343-383) and Streptavidin-PE conjugate - Y-axis (p/n S000-08) are used in FACS sorting of yeast surface display camelid VHH immunized library to isolate yeast clones expressing antibodies to a target antigen. VHH antibodies displayed on yeast cell surface are tagged with FLAG epitope. Yeast library was doubly stained with Anti-FLAG DyLight™ 649 conjugate to monitor VHH expression and biotinylated antigen/Streptavidin-PE conjugate complexes to detect VHH binding to the antigen. Double positive yeast cells were isolated using FACSaria II cell sorter.

## References

- Poltavets, V et al. CXCR4-CCR7 Heterodimerization Is a Driver of Breast Cancer Progression. *Life (Basel, Switzerland)* (2021)
- Felber BK. et al. Co-immunization of DNA and Protein in the Same Anatomical Sites Induces Superior Protective Immune Responses against SHIV Challenge. *Cell Rep.* (2020)
- Miller, DC et al. The CII-specific autoimmune T-cell response develops in the presence of FTY720 but is regulated by enhanced Treg cells that inhibit the development of autoimmune arthritis. *Arthritis Research & Therapy* (2016)
- Howe, R et al. Evidence for dendritic cell-dependent CD4(+) T helper-1 type responses to commensal bacteria in normal human intestinal lamina propria. *Clinical Immunology (Orlando, Fla.)* (2009)
- Huang L et al. Identification and characterization of a human monoclonal antagonistic antibody AL-57 that preferentially binds the high-affinity form of lymphocyte function-associated antigen-1. *J Leukoc Biol.* (2006)
- Samy, ET. et al. Continuous control of autoimmune disease by antigen-dependent polyclonal CD4+CD25+ regulatory T cells in the regional lymph node. *The Journal of Experimental Medicine* (2005)
- Ruiz, W. et al. Kinetics and isotype profile of antibody responses in rhesus macaques induced following vaccination with HPV 6, 11, 16 and 18 L1-virus-like particles formulated with or without Merck aluminum adjuvant. *Journal of Immune Based Therapies and Vaccines* (2005)

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