

Phycobiliproteins & conjugates

**For Flow
cytometry and Multiplexing 2009/10**



Animal sera & plasma / Antibodies / Antigens / Biochemicals / Bovine & other animal albumins / Bovine & other animal proteins / Flow cytometry conjugates / FRET conjugates / Glycobiology reagents / Liquid stable substrates / Molecular biology research products

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■ ABOUT US

Europa Bioproducts is a privately owned, European distributor of speciality products and reagents (Bioproducts) used by Diagnostic companies, Biopharmaceutical companies and Researchers.

The company was formed in April 1992 and has a wealth of experience importing products from the USA and Japan, then exporting them from the UK to all parts of Europe.

Our main business is the supply of Bioproducts in bulk to Biopharmaceutical, Biotechnology and Diagnostic companies in Europe.

Please note that our web site and catalogue only contains the minimum quantity we will supply. Most products are available in bulk.

Focus Areas

- Glycobiology
- Streptavidin Conjugates and Fluorescent reagents
- Albumins & Animal sera
- Antibodies & Antigens
- Liquid stable substrates & Chemicals

Research customers

We supply exactly the same quality products to UK and European researchers through our online catalogue and in addition supply several hundreds of research antibodies and antigens.

Services

We have a laboratory which is used for repackaging bulk products into smaller pack sizes for direct sales or for resale by other catalogue companies.

Using our partners in the USA we can offer:

- A very comprehensive range of glycan analytical services for Biopharmaceutical companies.
- Custom protein conjugation services including Biotin, enzymes, Phycoerythrin and Allophycocyanin.
- Monoclonal and polyclonal (including Chicken IgY) antibody production.
- Please contact us for further details.

■ INTRODUCTION TO PHYCOBILIPROTEINS

Phycobiliproteins are water soluble fluorescent proteins derived from cyanobacteria and eukaryotic algae. In these organisms, they are used as accessory or antenna pigments for photosynthetic light collection. They absorb energy in portions of the visible spectrum that are poorly utilized by chlorophyll and, through fluorescence energy transfer, convey the energy to chlorophyll at the photosynthetic reaction center. Other algal accessory pigments, which serve similar functions, are not water-soluble in their own right, but may be solubilized through their association with proteins.

Nomenclature

Phycobiliproteins are classified on the basis of their color into two large groups, the phycoerythrins (red) and the phycocyanins (blue). Absorption maxima for phycoerythrins lie between 490 and 570 nm while absorption maxima for phycocyanins are found between 610 and 665 nm. These large groups have been subdivided to reflect variation among the proteins in the exact location of the absorbance maximum and the specific shape of the absorbance spectrum.

Originally, these subdivisions, identified by letter prefixes to the phycobiliprotein name (e.g. C-phycocyanin, abbreviated C-PC) indicated the taxa of the organisms from which the pigments were isolated. For example, R-phycoerythrin (R-PE) was first isolated from the Rhodophyta. Further research has shown, however, that specific phycobiliprotein types are not always

restricted to specific taxa. In fact, there is a full continuum of spectral types of phycoerythrins, determined by relative abundance of bilins (see below). They can be produced by different organisms or, on occasion, by the same organism under different growth conditions or different stages of its life cycle. Thus, letter prefixes applied to phycobiliproteins are currently only a general indication of the shape of the absorbance curve, and similarly named pigments isolated from different sources should not be assumed to be identical. In some pigments isolated more recently, the name is followed by a number which indicates the approximate absorption maximum (McColl and Guard-Friar, 1987).

Structure

The phycobiliproteins are composed of a number of subunits, each having a protein backbone to which linear tetrapyrrole chromophores are bound. All phycobiliproteins contain either phycocyanobilin or phycoerythrobin chromophores, and may also contain one of three minor bilins; phycourobilin, cryptoviolin, or the 697-nm bilin. Each bilin has unique spectral characteristics, which may be further modified by interactions of the subunits and of the chromophore with the apoprotein.

The phycobiliproteins in many algae are arranged in subcellular structures called phycobilisomes. These

Introduction to Phycobiliproteins

structures allow the pigments to be arranged geometrically in a manner which helps to optimize the capture of light and transfer of energy. All of the phycobiliproteins absorb incident light directly, but in addition they participate in an energy transfer chain within the phycobilisome: phycoerythrin → phycocyanin → allophycocyanin → chlorophyll a.

precipitates. Purified biliproteins may disassociate into subunits under acidic or basic conditions, but are relatively stable at room temperature at neutral pH and at concentrations greater than 0.1 mg/ml. Disassociated subunits typically have less intense coloration and fluorescence and are somewhat different in color than the native pigment.

Physical properties

After isolation, phycobiliproteins have good long-term stability when stored refrigerated (2-5 °C) as ammonium sulfate

Tab 1: Properties of Phycobiliproteins

Pigment	Absorbance maximum ¹ (nm)	Fluorescence emission ² (nm)	Molecular weight ³ (kDa)	Absorbivity ⁴ (L/g-cm)	Molar absorptivity ⁴ (M-cm) ⁻¹ (10 ⁻⁶)	Fluorescence: Absorbance (relative to R-PE)
R-Phycoerythrin	565 (495)	575	240	8.2	1.97	1.00
B-Phycoerythrin	545	575	240	10.0	2.40	1.40
Y-Phycoerythrin	~495 (545)	~563				0.50
C-Phycocyanin	615	647	220	7.0	1.54	0.15
Allophycocyanin	652	660	100	7.3	0.73	0.30
PerCP	482	678	~53			
R-Phycocyanin (for reference only)	617 (555)	637	100	7.0	0.70	0.14
Phycoerythrin 566 (for reference only)	566	617	55	8.0	0.44	0.25
Phycoerythrocyanin (for reference only)	575	625	100	8.5	0.85	0.50

¹ Values in parentheses indicate secondary absorbance maxima.

² Phycobiliproteins are aggregates of subunits, and various aggregates may occur in aqueous solution. Values given are for most common reported aggregates; aggregates of both larger and smaller size may occur.

³ Value for Phycoerythrin 566 is an estimate.

⁴ An approximate relative indicator of the quantum efficiency of the pigment (measured at absorbance and emission maxima).

■ **SA-R-PE SAMPLER KITS *NEW!***

Don't compromise, find the SA-RPE which is best for your application!

ProZyme makes a series of streptavidin-R-phycoerythrin conjugates to meet the special requirements of your applications. Not sure which one?

Try our [Sampler Kits](#), and test them yourself. Let us know the results for your application, and we will apply the price paid for the kit against your first 1 mg purchase of any one of the component conjugates.

Share your application's results with us, and the kit's purchase price will be applied against your first 1 mg purchase of any one of the component conjugates.

SAPE (Native) Sampler Kit (PZPJ3SX)

Contains 5 different SAPE conjugates made from native Streptavidin and R-Phycoerythrin or B-Phycoerythrin (PZPJ71S).

The following conjugates are included in the kit:
PZPJRS20, PZPJRS25, PZPJRS27, PZPJ39S, PZPJ71S

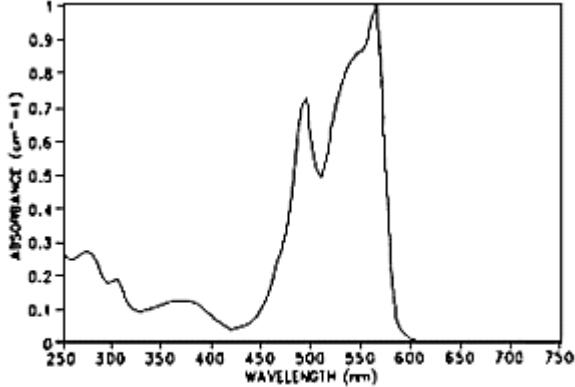
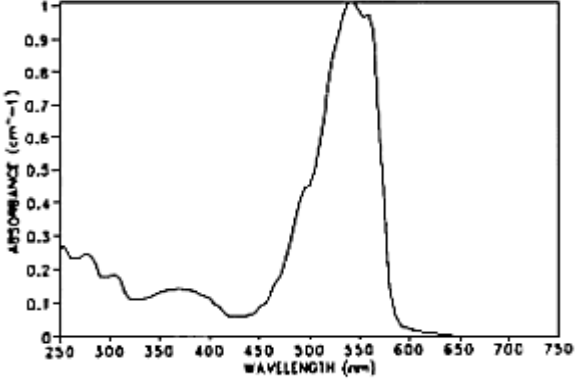
SAPE (Recombinant) Sampler Kit (PZPJPSX)

Contains 4 different conjugates made from recombinant Streptavidin and R-Phycoerythrin.

The following conjugates are included in the kit:
PZPJRS34, PZPJRS40, PZPJRS50, PZPJRS70

The kits contain 0.25 mg of each conjugate. PZPJPSX is for research purposes only. For diagnostic applications please use PZPJ3SX.

■ PHYCOBILIPROTEINS

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPB31	<p>PhycoPro™ R-Phycoerythrin (red algae)</p> <p>$A_{566/280} > 5.3$, $A_{566/496} < 1.5$ $A_{620/566} < 0.005$ Concentration ~20 mg/ml. Relative Quantum Yield > 2.50</p> <p>R-PE has its primary absorbance peak at 565 nm with secondary peaks at 496 and 545 nm. R-PE has three types of subunits: alpha (~20 kDa), beta (~20 kDa) and gamma (~30 kDa). The MW of intact R-PE has been found to be about 240 kDa, and a subunit structure of (alpha beta)₆ gamma has been determined. R-PE and closely related B-PE are the most intensely fluorescent of the phycobiliproteins, with quantum efficiencies probably in excess of 90%.</p>	10 mg
	 <p style="text-align: center;">PhycoPro™ R-Phycoerythrin</p>	
PZPB71	<p>PhycoPro™ B-Phycoerythrin (red algae)</p> <p>B-Phycoerythrin (B-PE) has the same three absorbance peaks as R-PE, but its absorbance maximum occurs at 545 nm instead of 565 nm. The subunit structure of B-PE is also similar to that of R-PE, but the chromophore content of the subunits differs, causing the difference in the relative intensities of the absorbance peaks. B-PE is found both in cyanobacteria and red algae. By eye, the intense pink color and orange fluorescence of B-PE are virtually indistinguishable from those of R-PE.</p>	please enquire bulk quantities only
	 <p style="text-align: center;">PhycoPro™ B-Phycoerythrin</p>	

PZPB20 **PhycoPro™ Allophycocyanin (*Spirulina platensis*)**

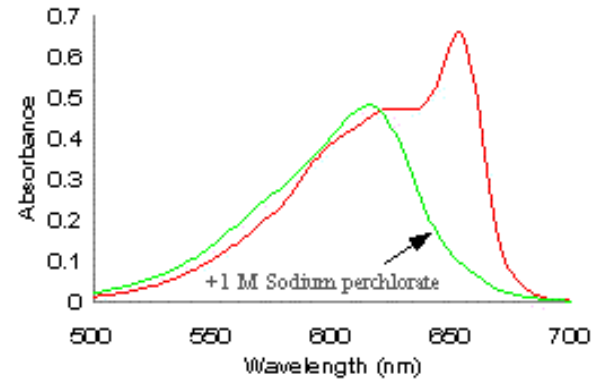
5 mg

$A_{650/280} > 4$; $A_{650/620} > 1.25$

Several forms of allophycocyanin (APC) have been identified, depending on both the organism studied and the exact function of the individual molecule in the final transfer of energy from the phycobilisome to the chlorophyll reaction center. The most common form has an absorbance maximum at 650 nm. Like C-PC, APC carries only the PCB chromophore; its significantly different spectral properties result solely from conformation effects on the chromophores. It possesses alpha and beta subunits with an apparent structure of $(\alpha\beta)_3$, and is bright blue to the eye.

See also cross-linked APC.

PhycoPro™ Allophycocyanin



PZPB25 **PhycoPro™ Allophycocyanin (cross-linked)**

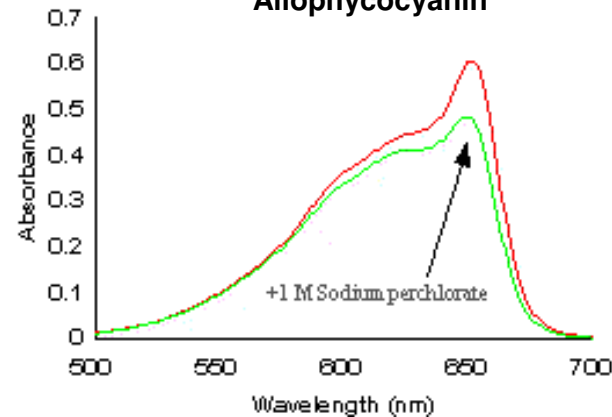
3 mg

GT5™APC has been cross-linked for stability. Disruption is virtually eliminated in our cross-linked Allophycocyanin

APC is the least stable of the major phycobiliproteins, susceptible to dissociation at low concentrations including concentrations at which some assays are performed. For this reason, we recommend to use APC that is chemically cross-linked between the alpha and beta subunits, which significantly retards dissociation of the complex.

Compare the data between APC (above) and cross-linked APC (right). Sodium perchlorate treatment (green) disrupts APC, but not the cross-linked APC.

PhycoPro™ Cross linked Allophycocyanin

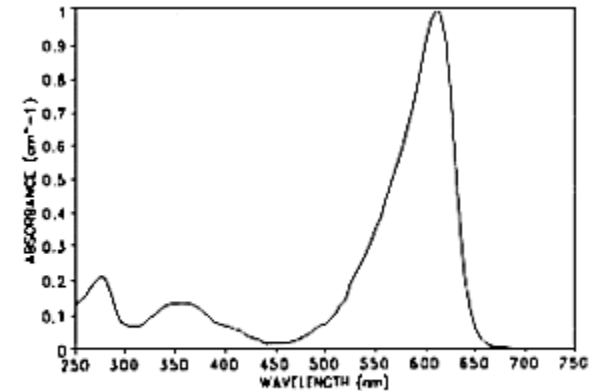


PZPB11 **PhycoPro™ C-Phycocyanin** (*Spirulina sp.*)

5 mg

$$A_{650/280} > 4$$

C-Phycocyanin (C-PC) occurs as the major phycobiliprotein in many cyanobacteria and as a secondary phycobiliprotein in some red algae. The pigment has a single visible absorbance maximum between 615 and 620 nm and a fluorescence emission maximum at around 640 nm. Its molecular weight is between 70,000 and 110,000 Daltons. The pigment is composed of two subunits, alpha and beta, which occur in equal numbers, but the exact number of alpha-beta pairs which make up the molecule may vary among the species. Both alpha and beta subunits contain only the PCB chromophore. In addition to absorbing light directly, this intensely blue pigment accepts quanta from phycoerythrin by fluorescent energy transfer in organisms in which PE is present. The red fluorescence of C-PC is transferred to allophycocyanin (see below).



PhycoPro™ C-Phycocyanin

PZPB40 **PhycoPro™ PerCP** (*Dinophyceae*)

5 mg

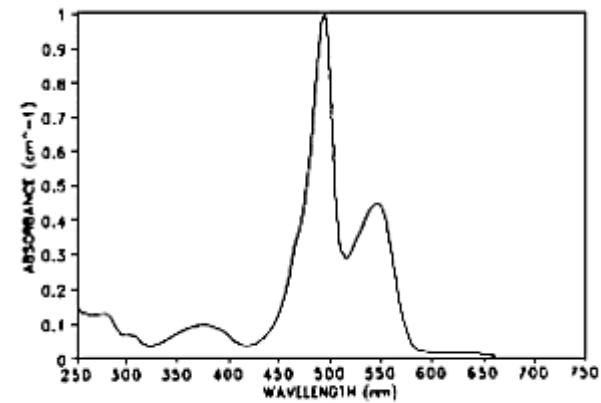
Peridinin-chlorophyll-protein complex

Absorbance max = 482 nm

Emission max = 676 nm (677±1)

PZPB80 **PhycoPro™ Y-Phycoerythrin**

Y-phycoerythrin (Y-PE) has a shift of its fluorescence emission toward the yellow, relative to R- and B-phycoerythrins. Its absorbance and excitation maxima are located at ~495 nm, making it particularly suitable for excitation with a 488 nm laser. Its shorter emission wavelength (~563 nm), relative to other phycoerythrins (575 nm), makes it a good candidate for multicolor fluorescence applications, where separation from higher wavelength emissions is desired. In addition, preliminary results suggest that Y-PE may be a more efficient donor in fluorescence resonance energy transfer (FRET) applications. The protein contains alpha, beta, and gamma subunits, but its molecular weight remains to be determined. The shift in its spectral characteristics, relative to other phycoerythrins, reflects a high content of the phycourobilin chromophore.



PhycoPro™ Y-Phycoerythrin

please enquire
bulk quantities
only

■ PHYCOLINK® ACTIVATED PHYCOBILIPROTEINS

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJRC10	PhycoLink® Activated R-Phycoerythrin Available in bulk for larger scale conjugations.	2 mg
PZPJ71C	PhycoLink® Activated B-Phycoerythrin Available in bulk for larger scale conjugations.	2 mg
PZPJ40C	PhycoLink® Activated Peridinin-chlorophyll-protein complex (PerCP) Note: Refill available upon prior purchase of PhycoLink® PerCP Conjugation Kit PzPJ40K. Bulk customers please enquire.	2 mg
PZPJ25C	PhycoLink® Activated Allophycocyanin Available in bulk for larger scale conjugations.	2 mg

■ PHYCOLINK® CONJUGATION AND PURIFICATION KITS

Conjugation Kits

- Complete** The kits contain everything you need to conjugate 1 mg (~1000 test) of your antibody.
- Fast** Only two hours from start to finish.
- Easy to Use** Complete step-by-step protocols
- Great results** Brightest Phycobiliproteins commercially available for the most sensitive conjugates.
- Flexible** Allows small conjugations (down to 50 µg of antibody).

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ25K	PhycoLink® Allophycocyanin (APC) Conjugation Kit	1 kit for 1 mg of conjugate
PZPJ31K	PhycoLink® R-Phycoerythrin (R-PE) Conjugation Kit	1 kit for 1 mg of conjugate
PZPJ40K	PhycoLink® PerCP Conjugation Kit	1 kit for 1 mg of conjugate
PZPJ71K	PhycoLink® B-Phycoerythrin Conjugation Kit	1 kit for 1 mg of conjugate

Purification Kits

Rapid and convenient small-scale purification of phycobiliprotein conjugates by size exclusion chromatography.

- Everything needed to remove unincorporated reactants from conjugates; specifically formulated for use with PhycoLink® Conjugation Kits
- Complete protocols, thoroughly tested for trouble-free purification
- Refills available for consumable components to allow reuse of “hardware”
- Two sizes to fit specific needs

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZKPK13	PhycoLink® Conjugate Purification Kit 13-ml column for purification of 0.25 mg of conjugate	1 kit for 0.25 mg of conjugate
PZKPK80	PhycoLink® Conjugate Purification Kit 80-ml column for purification of 1 mg of conjugate	1 kit for 1 mg of conjugate
PZKPK100	Column Matrix for Conjugate Purification 100 ml of matrix in ethanol (preservative)	100 ml

■ ALLOPHYCOCYANIN (APC) CONJUGATES

Custom Conjugation

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ99	Custom Conjugation to Allophycocyanin Usually only cost effective for >50mg antibody.	Please enquire.

For small scale conjugation please see Phycolink Conjugation and Purification kits.

APC streptavidin/biotin conjugates

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ25S	PhycoLink® Streptavidin-Allophycocyanin PZSA10 Streptavidin conjugated to <u>PZPB25</u> Allophycocyanin	1 mg
PZPJ27S	PhycoLink® Streptavidin-Allophycocyanin Specifically manufactured for tetramer/multimer applications	1 mg
PZPJ25B	PhycoLink® Allophycocyanin-biotin	2 mg

APC conjugates of detection antibodies

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ252p1	PhycoLink[®] anti-GST-Allophycocyanin anti-GST Ab conjugated to <u>PZPB25</u> Allophycocyanin	0.25 mg
PZPJ255	PhycoLink[®] anti-FLAG[®]-Allophycocyanin MAb (M2) conjugated to <u>PZPB25</u> Allophycocyanin	0.25 mg
PZPJ259	PhycoLink[®] anti-beta-Galactosidase-Allophycocyanin Rabbit Anti-beta-Galactosidase polyclonal Ab conjugated to GT5 [™] Allophycocyanin	0.25 mg
PZPJA03	PhycoLink[®] anti-6xHis-Allophycocyanin	please enquire
PZPJA14	PhycoLink[®] anti-HA Tag-Allophycocyanin	please enquire
PZPJA17	PhycoLink[®] anti-DNP-Allophycocyanin	please enquire

APC conjugates of anti phosphotyrosine

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ254m1	PhycoLink® anti-pTyr Type 1-Allophycocyanin PY20 MAb conjugated to GT5™ Allophycocyanin	0.25 mg

APC conjugated secondary antibodies

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ253	PhycoLink® Goat anti-human IgG (Fc-Specific)-Allophycocyanin	0.25 mg
PZPJ251	PhycoLink® Goat anti-Mouse IgG-Allophycocyanin	0.25 mg
PZPJA08	PhycoLink® Goat anti-Mouse IgG-(Fc-Specific)-Allophycocyanin	0.25 mg
PZPJ257	PhycoLink® Goat anti-Rabbit IgG-Allophycocyanin	0.25 mg
PZPJA06	PhycoLink® Goat anti-Rat IgG-Allophycocyanin	0.25 mg

APC conjugates for glycobiology

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PJA18	PhycoLink® Concanavalin A-Allophycocyanin	please enquire
PJA19	PhycoLink® GS-I Lentil Lectin-Allophycocyanin	please enquire
PJA20	PhycoLink® Lentil Lectin-Allophycocyanin	please enquire
PJA21	PhycoLink® Jacalin-Allophycocyanin	please enquire
PJ25W	PhycoLink® Wheat Germ Agglutinin (WGA)-Allophycocyanin	0.25 mg

■ PERCP CONJUGATES

PerCP custom conjugation

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ98	Custom Conjugation to PerCP Usually only cost effective for >50mg antibody.	please enquire

For small scale conjugation please see Phycolink Conjugation and Purification Kits.

■ R-PHYCOERYTHRIN (R-PE) CONJUGATES

R-PE streptavidin sampler kits **NEW!**

ProZyme makes a series of new Streptavidin-R-Phycoerythrin conjugates to meet the special requirements of customer applications. Not sure which one? Try our new Sampler Kits and test them yourself.

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ3SX	PhycoLink® Native Streptavidin-Phycoerythrin Sampler Kit Contains PZPJRS20, PZPJRS25, PZPJRS27, PZPJ39S, PZPJ71S, 0.25mg each.	1 ea
PZPJPSX	PhycoLink® Recombinant Streptavidin-Phycoerythrin Sampler Kit Contains PZPJRS34, PZPJRS40, PZPJRS50, PZPJRS70, 0.25mg each.	1 ea

R-PE native Streptavidin conjugates (diagnostic applications) **NEW!**

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJRS20	PhycoLink® Streptavidin-R-Phycoerythrin (replaces PZPJ31S)	1 mg
PZPJRS25	PhycoLink® Streptavidin-R-Phycoerythrin (replaces PZPJ35S)	1 mg
PZPJRS27	PhycoLink® Streptavidin-R-Phycoerythrin (replaces PZPJ37S)	1 mg
PZPJ39S	PhycoLink® Streptavidin-R-Phycoerythrin	1 mg
PZPJ71S	PhycoLink® Streptavidin-B-Phycoerythrin	1 mg

R-PE recombinant Streptavidin conjugates (research applications) *NEW!*

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJRS34	PhycoLink® rStreptavidin-R-Phycoerythrin (replaces PZRS31S)	1 mg
PZPJRS40	PhycoLink® rStreptavidin-R-Phycoerythrin	1 mg
PZPJRS50	PhycoLink® rStreptavidin-R-Phycoerythrin (replaces PZRS35S)	1 mg
PZPJRS70	PhycoLink® rStreptavidin-R-Phycoerythrin (replaces PZRS37S)	1 mg

R-PE Streptavidin/Biotin conjugates

Please also have a look at our new conjugates (above).

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ31S	PhycoLink® Streptavidin-R-Phycoerythrin (HB) Our highest, brightest conjugate.	1 mg
PZPJ35S	PhycoLink® Streptavidin-R-Phycoerythrin A smaller conjugate. May perform better for MHC multimer/tetramer applications if long-term storage of the complex is intended.	1 mg
PZPJ37S	PhycoLink® Streptavidin-R-Phycoerythrin Smaller than PJ35S. May perform well in some MHC multimer/tetramer applications.	1 mg

R-PE Conjugates

PZPJ39S	PhycoLink® Streptavidin-R-Phycoerythrin A monomeric (MM) conjugate that is predominantly a single peak on an HPLC chromatogram, consistent with a single streptavidin molecule conjugated to a single R-phycoerythrin molecule (conjugate MW ~ 295 kDa). Potential applications include single molecule detection systems and quantitative analysis in flow cytometry.	1 mg
PZPJ31B	PhycoLink® R-Phycoerythrin-Biotin	3 mg

R-PE custom conjugation

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ31K	Custom Conjugation to R-Phycoerythrin Usually only cost effective for >50mg antibody.	Please enquire

For small scale conjugation please see Phycolink Conjugation and Purification Kits.

R-PE conjugates of detection antibodies

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ312p1	PhycoLink[®] GST-R-Phycoerythrin Anti-GST Ab conjugated to PB31 R-Phycoerythrin	0.25 mg
PZPJ315	PhycoLink[®] anti-Flag[®] R-Phycoerythrin MAb (M2) conjugated to activated R-Phycoerythrin	0.25 mg
PZPJ319	PhycoLink[®] anti-beta-Galactosidase-R-Phycoerythrin Rabbit anti-beta-Galactosidase polyclonal Ab conjugated to R-Phycoerythrin (PZPB31)	0.25 mg
PZPJR02	PhycoLink[®] anti-MBP-R-Phycoerythrin anti-Maltose-binding ProteinMAb (8G1) conjugated to R-Phycoerythrin (PZPB31)	please enquire
PZPJR03	PhycoLink[®] anti-6xHis-R-Phycoerythrin	please enquire

R-PE conjugated anti Phosphotyrosine

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ314m1	PhycoLink[®] anti-Phospho-Tyrosine (Type 1)-R-Phycoerythrin MAb (PY20) conjugated to R-Phycoerythrin	0.25 mg

R-PE conjugated secondary antibodies

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ311	PhycoLink® Goat anti-Mouse IgG-R-Phycoerythrin	0.25 mg
PZPJ313	PhycoLink® Goat anti-Human IgG (Fc-specific)-R-Phycoerythrin	0.25 mg
PZPJ317	PhycoLink® Goat anti-Rabbit IgG-R-Phycoerythrin	0.25 mg
PZPJR06	PhycoLink® Goat anti-Rat IgG-R-Phycoerythrin	0.25 mg
PZPJR08	PhycoLink® Goat anti-Mouse IgG-(Fc-Specific)-Phycoerythrin	0.25 mg

R-PE conjugates for glycobiology

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJR18	PhycoLink® Concanavalin R-Phycoerythrin	please enquire
PZPJR19	PhycoLink® GS-I Lentil Lectin-R-Phycoerythrin	please enquire
PZPJR20	PhycoLink® Lentil Lectin-R-Phycoerythrin	please enquire
PZPJR21	PhycoLink® Jacalin-R-Phycoerythrin	please enquire

■ B-PHYCOERYTHRIN CONJUGATES

B-PE Streptavidin/Biotin conjugates

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ70B	PhycoLink® B-Phycoerythrin-Biotin	2 mg
PZPJ71S	PhycoLink® Streptavidin-B-Phycoerythrin Similar to PZPJ31S, but made with B-Phycoerythrin (slightly different spectral properties). Resists photobleaching in <i>in silico</i> applications. See PZPJ3SX.	0.25 mg

■ C-PHYCOCYANIN CONJUGATES

C-Phycocyanin-Biotin conjugates

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZPJ11B	PhycoLink® C-Phycocyanin-Biotin C-Phycocyanin was conjugated to biotin.	3 mg

■ CONJUGATE STABILIZER

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZCJ95	<p>Horseradish Peroxidase Conjugate Stabilizer</p> <p>PZCJ95 HRP Conjugate Stabilizer is specifically designed for dilution of ProZyme Horseradish Peroxidase conjugates.</p> <p>PZCJ95 HRP Conjugate Stabilizer prevents disassociation of the heme portion of the peroxidase molecule and maintains the conformation of the protein or antibody portion of the conjugate. It will not improve the stability of the bond between HRP and the antibody, protein or antigen.</p>	500 ml
PZCJ90	<p>Alkaline Phosphatase Conjugate Stabilizer</p> <p>PZCJ90 AP Conjugate Stabilizer is specifically designed for dilution of ProZyme Alkaline Phosphatase conjugates.</p> <p>PZCJ90 AP Conjugate Stabilizer contains proprietary ingredients that prevent loss of catalytic activity and maintain conformation of the antibody, protein or antigen portion of the conjugate. It will not improve the stability of the bond between AP and the antibody, protein or antigen.</p>	500 ml

■ STREPTAVIDIN

CODE	PRODUCT DESCRIPTION	MIN. QUANTITY
PZSA10	<p>Streptavidin (<i>Streptomyces avidinii</i>)</p> <p>Specific activity >14.0 U/mg protein. MW ~52,000 Daltons (based on MS), composed of 4 identical polypeptide chains.</p> <p>Predominantly a single band by SDS PAGE. Supplied lyophilized, contains ~0.9 mg protein/mg lyophilizate.</p>	5 mg
PZSA20	<p>Streptavidin-<i>plus</i>[®] (<i>Streptomyces avidinii</i>)</p> <p>Specifically manufactured for coated plate and other immobilization applications, or where higher temperature stability is required.</p> <p>Specific activity >14.0 U/mg protein. Supplied lyophilized, contains ~0.9 mg protein/mg lyophilizate.</p>	5 mg
PZSA26	<p>Streptavidin-<i>plus</i>[®] (recombinant gene from <i>Streptomyces avidinii</i> expressed in <i>E. coli</i>)</p> <p>Recombinant version of product code SA20. Specific activity >15.0 U/mg protein. Supplied lyophilized, contains ~0.9 mg protein/mg lyophilizate.</p> <p>Recombinant streptavidin is covered by US Patents No 5,168,049 and 5,272,254 and their foreign counterparts. Purchase includes a limited license to use for research purposes only, expressly excluding pharmaceutical and in vitro-diagnostic use or application (as defined under the European IVD Directive).</p>	5 mg

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