

# Agilent Phycobiliproteins

Fluorescent proteins manufactured from native sources in continuous culture (red algae, cyanobacteria)

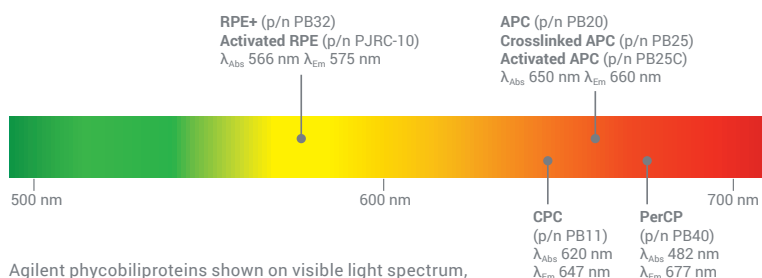


Agilent [phycobiliproteins](#) are manufactured from proprietary natural sources grown in continuous culture in California, and highly purified for the best possible product quality. R-Phycoerythrin and Allophycocyanin are workhorse fluorescent detection reagents in a wide range of biotechnology applications.

## The Agilent advantage:

- Consistent lot-to-lot performance resulting from continuous culture of source organisms and high purity.
- Superior quantum efficiency compared to small molecule dyes (Cy Dyes, Alexa Dyes, FITC).
- Very high water solubility.
- Homogeneous structure with defined molecular weights.
- Multiple sites for stable conjugation to many biological and synthetic materials.
- Total control on growth conditions and nutrition, which avoids contamination from extraneous organisms and waste found in the open ocean. Proteins are harvested at the optimal stage of the growth cycle to assure uniform product characteristics. The pigment is extracted and stabilized within minutes of harvest, virtually eliminating risks from the action of proteases.

Applications: typically conjugated to monoclonal or polyclonal secondary antibodies, used for detection in flow cytometry or bead-based assays.



Agilent phycobiliproteins shown on visible light spectrum, including excitation and emission wavelengths.

## Phycobiliproteins

### R-Phycoerythrin (RPE)

- Purified from red algae ('Porphyra-like' strain) grown in continuous culture
- Used to conjugate directly to antibodies or streptavidin, or for tandem labels

### Allophycocyanin (APC)

- Purified from *Spirulina* sp cyanobacteria grown in continuous culture
- Available crosslinked to provide increased structural integrity in the presence of chaotropic salts

### C-Phycocyanin (CPC)

- Purified from *Spirulina* sp cyanobacteria grown in continuous culture
- Conjugation to antibodies for flow cytometry

### PerCP

- Purified from a dinoflagellate grown in continuous culture (*Dinophyceae* sp)
- Conjugation to antibodies for flow cytometry

## Activated Phycobiliproteins

Activated Phycobiliproteins can be easily conjugated to antibodies and other proteins without the use of added chemical crosslinking agents. These highly purified phycobiliproteins maintain their spectral characteristics when conjugated. Agilent [Activated Phycobiliproteins](#) have been treated with succinimidyl 4-[N-maleimidomethyl]-cyclohexane-1-carboxylate (SMCC) which reacts with lysine groups, leaving maleimide groups available to react with free sulfhydryl groups of conjugate partner proteins. They are ready to use and will conjugate without further preparation upon mixing with sulfhydryl-containing targets.



Product Description	Part Number	Pack Size*	Application	Absorbance Maximum (nm)	Fluorescence emission (nm)	Molecular Weight (kDa)
<b>Activated R-Phycoerythrin</b> RPE activated with SMCC then goes through a buffer exchange step and filtered using a 0.45 µm membrane.	<a href="#">PJRC10-5</a>	5 mg	Conjugation of antibodies and other proteins.	566 (496 secondary)	575	240
	<a href="#">PJRC10</a>	100 mg				
<b>Activated Allophycocyanin</b> APC crosslinked and then activated with SMCC. After a buffer exchange step, the product is filtered using a 0.45 µm membrane.	<a href="#">PJ25C-5</a>	5 mg	Conjugation of APC antibodies and other proteins.	648–652	~660	104
	<a href="#">PJ25C-10</a>	10 mg				
	<a href="#">PJ25C</a>	100 mg				

## RPE Conjugation Kit

Our [R-Phycoerythrin \(RPE\) Conjugation Kit](#) contains everything you need to conjugate up to 1 mg of your antibody to RPE. The kit method employs reduction of disulfides in your antibody to produce free sulfhydryl groups which are then reacted with maleimide groups on SMCC-RPE. Complete step-by-step protocols are included and allow small scale conjugations down to 50 µg of antibody. The kit is suitable for conjugation of other sulfhydryl-containing proteins as well. It utilizes a widely used and reliable conjugation chemistry and the highest-purity RPE available. Conjugates can be ready in as little as two hours.

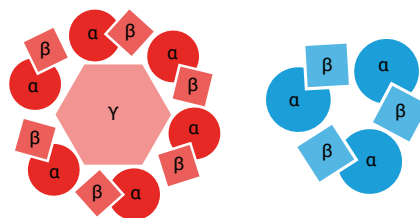
Product Description	Part Number	Pack Size*	Application	Absorbance Maximum (nm)	Fluorescence emission (nm)	Molecular Weight (kDa)
<b>R-Phycoerythrin Conjugation Kit</b> Contains everything you need to conjugate up to 1 mg of your antibody to RPE, including 3.2 mg activated RPE.	<a href="#">PJ31K</a>	1 kit	Conjugation of RPE to antibodies or other proteins. Reaction may be scaled up by utilizing additional activated RPE (p/n PJRC10).	566 (496 secondary)	575	240

\* These phycobiliprotein products are available in various pack sizes. Large quantities are available from single lots, with exceptional lot-to-lot consistency. Please [contact us](#) if you are interested in a sample to test.

## Phycobiliprotein options

Agilent phycobiliproteins can be easily linked to antibodies and other proteins through conventional protein cross-linking techniques without altering their spectral characteristics.

Visit the [Agilent phycobiliprotein webpage](#) for ordering information.



Product Description	Part Number	Pack Size*	Applications	Absorbance Maximum (nm)	Fluorescence emission (nm)	Molecular Weight (kDa)
<b>R-Phycoerythrin (RPE+)</b> Isolated from a species of red algae chosen specifically because it yields one of the most highly fluorescent of the RPEs.	<a href="#">PB32-10</a>	10 mg	Fluorescent immunolabeling, flow cytometry, Luminex or other bead-based applications.	566 (496 secondary)	575	240
	<a href="#">PB32-100</a>	100 mg				
	<a href="#">PB32</a>	500 mg				
<b>Allophycocyanin (<i>Spirulina</i> sp)</b> Isolated from <i>Spirulina</i> sp., a blue-green alga, APC has extremely high absorptivity and a high quantum efficiency. Can be easily linked to antibodies and other proteins.	<a href="#">PB20-10</a>	10 mg	Fluorescent immunolabeling, particularly in applications involving fluorescent-activated cell sorting (FACS) or time-resolved fluorescence resonance transfer (TR-FRET).	648 - 652	~660	104
	<a href="#">PB20-100</a>	100 mg				
	<a href="#">PB20</a>	500 mg				
<b>Cross-linked Allophycocyanin</b> Cross-linking APC creates the most stable form available as the crosslinked αβ subunits provide increased structural integrity in the presence of chaotropic salts. There are one or two crosslinks created per APC molecule.	<a href="#">PB25-10</a>	10 mg	Fluorescent immunolabeling, particularly in applications involving FACS or TR-FRET.	64–652	~660	104
	<a href="#">PB25-50</a>	50 mg				
	<a href="#">PB25-100</a>	100 mg				
	<a href="#">PB25</a>	500 mg				
<b>C-Phycocyanin (<i>Spirulina</i> sp)</b> Isolated from <i>Spirulina</i> sp., a blue-green alga. Like other phycobiliproteins, CPC is fluorescent, with an extremely high absorptivity and a high quantum efficiency.	<a href="#">PB11</a>	10 mg	Used in a variety of immunological assays and as fluorescent labels for cell-sorting. Because of the high molar absorptivity of CPC and other phycobiliproteins at visible wavelength, they are convenient markers in such applications as gel electrophoresis, isoelectric focusing and gel exclusion chromatography.	620	647	232
	<a href="#">PB11-500</a>	500 mg				
<b>PerCP (<i>Dinophyceae</i> sp)</b> Peridinin-chlorophyll-protein complex (PerCP) is isolated from <i>Dinophyceae</i> sp.	<a href="#">PB40-10</a>	10 mg	Fluorescent immunolabeling, particularly in applications involving FACS.	482	677	35.5
	<a href="#">PB40-50</a>	50 mg				
	<a href="#">PB40-100</a>	100 mg				
	<a href="#">PB40</a>	500 mg				

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## Partnering with Agilent

The selection of a reliable supplier is essential, and enables you to have the utmost confidence in every detail of your products.

Partnering with Agilent guarantees this confidence and offers you:

<b>Supply management</b>	Scheduled deliveries and worldwide logistics minimize expense and risk, ensuring your proteins are in the right place, at the right time. Inventory management provides batch specific ordering and lot pre-qualification when needed.
<b>Flexibility</b>	Custom quality and supply agreements. Small to large batch sizes. Ability to supply large quantities at short notice.
<b>Quality</b>	Bioanalytical proteins with proven performance, high purity, and reproducibility achieved through robust manufacturing processes.
<b>Expertise</b>	Access to 30 years experience in the development and manufacturing of high-performance, consistent streptavidin and phycobiliprotein products

Learn more:

[www.agilent.com/chem/proteins-conjugates](http://www.agilent.com/chem/proteins-conjugates)

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Published in the USA, October 1, 2021  
5994-4052EN