

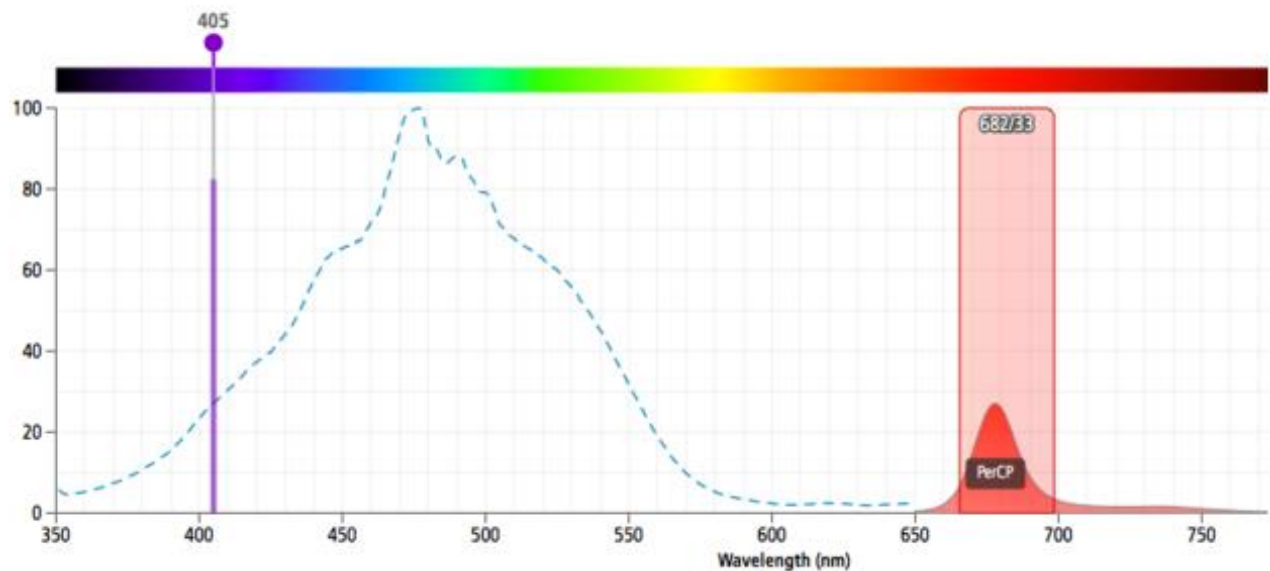
FT-CJF400

## PerCP: Peridinium Chlorophyl Protein Complex

### Products Information

Product name cat.number	MW (g·mol <sup>-1</sup> )	$\lambda_{exc}/\lambda_{em}$ max. (nm)	mol. abs. (M <sup>-1</sup> cm <sup>-1</sup> )
<b>PerCP</b> (Peridinium Chlorophyl Protein Complex) FP-CJF400, 1mg FP-CJF401, 10mg Supplied Lyophilized	~350 000	472-482/ <b>677</b> nm QY: ~1	1.96 x 10 <sup>6</sup> M <sup>-1</sup> cm <sup>-1</sup>
<b>PerCP-Streptavidin</b> GCY920, 100µg at 1mg/ml			

**Storage:** +4°C (in the dark, avoid moisture, DO NOT FREEZE) (H)



## Technical and scientific information

### PerCP structure and fluorescent properties

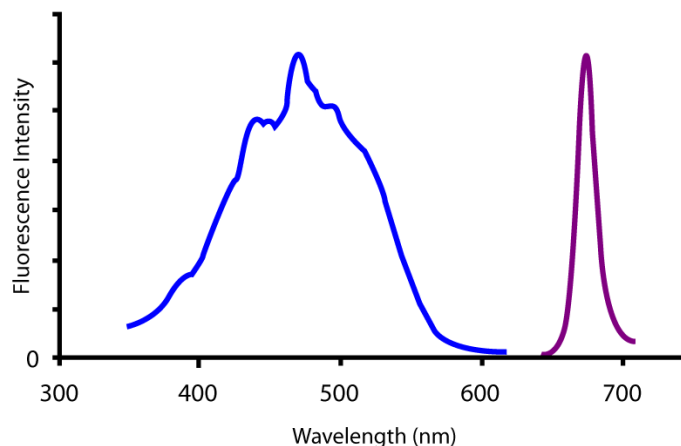
PerCP is a fluorescent peridinin-chlorophyll protein complex.

This specialized molecular complex consists of a protein molecule with a large central cavity that contains peridinin, chlorophyll, and lipid molecules, usually in a 4:1 ratio of peridinin to chlorophyll. The form isolated from dinoflagellates has a molecular weight of about 35.5 kDa.

Peridinin is a light-harvesting apocarotenoid, this pigment absorbs blue-green light in the 470-550nm range, outside the range accessible to chlorophyll molecules.

PerCP has a broad spectrum of excitation with a main peak at 472-483 nm, and a long Stokes shift to an emission peak at 677 nm (Figure 1).

- Absorption maximum: 472-483 nm
- Emission maximum: 676 nm
- Extinction coefficient ( $\epsilon$ ):  $1.96 \times 10^6 \text{ M}^{-1}\text{cm}^{-1}$
- $A_{483}/A_{280} \geq 4.6$



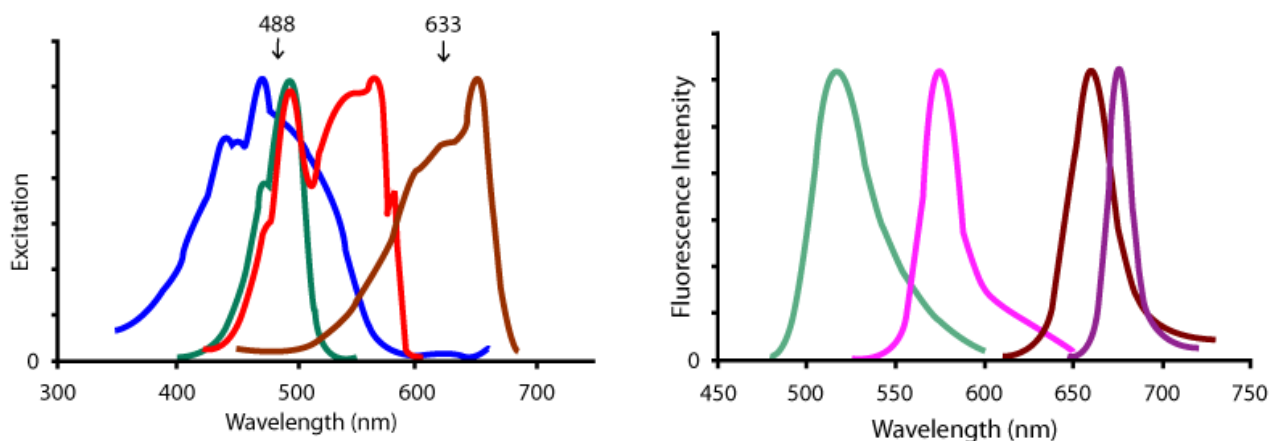
**Figure 1.** Relative shape and position of spectra in the peak region of excitation (blue) and emission (purple) for PerCP conjugated to an affinity-purified secondary antibody. Quantitative comparisons should not be made since peak heights have been normalized.

### PerCP applications

• PerCP is used to prepare fluorescent labeled probes for a variety of fluorescent techniques, notably for fluorescence flow cytometry and cell sorting (FACS).

Ask for PerCP conjugates of secondary antibodies (anti Igs) and of primary antibodies, PerCP-streptavidin for detecting biotinylated primary or secondary antibodies. Two practical labeling protocols are possible with the products.

PerCP can be detected simultaneously with FITC or alternative green dyes, such as FluoProbes488 for brighter and unrivalled photostable, and R-PE for **one- to three-color analyses** with a single-laser flow cytometer equipped with an argon laser emitting at 488 nm. **Up to four-color analyses** with low compensation are easily achieved by adding APC-conjugated antibodies with 633 or 635 nm excitation provided by a dual-laser flow cytometer (Figure 4).



**Figure 4.** Excitation spectra (left) for PerCP-(blue), Alexa Fluor® 488/FITC-(green), R-PE-(red), and APC-(brown) conjugated secondary antibodies. Emission spectra (right) for FITC-(green), R-PE-(pink), APC-(brown), and PerCP-(purple) conjugated secondary antibodies. Quantitative comparisons should not be made since peak heights have been normalized.

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## • PerCP-streptavidin conjugate #GCY920

Compared with a single-step PerCP-conjugated primary antibody, about the same level of fluorescence is obtained with a two-step procedure using a biotinylated primary antibody and PerCP-conjugated streptavidin. A consistent, slightly higher signal is achieved by using an unconjugated primary antibody and PerCP-conjugated secondary antibody. Although three-step procedures are usually undesirable for flow cytometry, a somewhat greater amplification may be obtained with unconjugated primary antibody, biotinylated secondary antibody, and PerCP-conjugated streptavidin.

## References

Jiang, Jing; Zhang, Hao; Kang, Yisheng; Bina, David; Lo, Cynthia S.; Blankenship, Robert E. (July 2012). "Characterization of the peridinin-chlorophyll a-protein complex in the dinoflagellate Symbiodinium". *Biochimica et Biophysica Acta (BBA) - Bioenergetics*. **1817** (7): 983–989. doi:[10.1016/j.bbabi.2012.03.027](https://doi.org/10.1016/j.bbabi.2012.03.027)

## Legals

For research or further manufacturing use only.

Reconstitution Reconstitute whole bottle of Lyo SMCC-RPE (2 mg) with your conjugate

## Related products

### > Labeling kits and reagents

- **Phycobiliproteins** ([FT-28310A](#)): long stock's shift fluorophores:
  - R-PhycoErythrin (R-PE) #FP-28310B;
  - B-PhycoErythrin (B-PE) #FP-147885B;
  - C-PhycoCyanine (C-PC) #FP-35191B;
  - AlloPhycoCyanine (cl-APC) #FP-35298B (not stabilized #FP-CD759A, SMCC activated #FP-CD7550
- **Accessory reagents:**
  - [PBS Buffer](#) tabs #UP307157, packs #UP68723A
  - [SMCC](#) #UP17412A
  - [MAL-PEO<sub>2</sub>-NHS](#) #AL6580
  - [Iminothiolane](#) #42425A, CF617A (Traut's reagent)
  - [SATA](#) #UP84235A (N-Succinimidyl S-acetylthioacetate)
  - [Streptavidin](#) #UP51558C

### > Labeled Probes for ImmunoAssays and Cell Assays

Streptavidin conjugated to phycobiliproteins ([FT-7776A](#))

AnnexinV-RPE #FP-AH191A

## Ordering information

Catalog size quantities and prices may be found at <http://www.interchim.com>

Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06

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