

# Buccutite™ Rapid PerCP Antibody Labeling Kit

## \*Microscale Optimized for Labeling 100 ug Antibody Per Reaction\*

Catalog number: 1325  
Unit size: 2 Labelings

| Component                                   | Storage  | Amount                |
|---|--|-----------------------|
| Component A: Buccutite™ FOL-Activated PerCP | Refrigerated (2-8 °C), Minimize light exposure | 2 vials (lyophilized) |
| Component B: Buccutite™ MTA                 | Refrigerated (2-8 °C), Minimize light exposure | 2 vials (lyophilized) |
| Component C: Reaction Buffer                | Refrigerated (2-8 °C), Minimize light exposure | 1 Vial (20 µL)        |

### OVERVIEW

PerCP (Peridinin-chlorophyll-protein complex) is isolated from Dinophyceae sp. It has an extremely high extinction coefficient, a high quantum efficiency and a large Stokes shift. It is well excited with the Argon laser at 488 nm with its maximum emission peak at 677 nm. AAT Bioquest offers this Buccutite™ rapid labeling kit to facilitate the PerCP conjugations to antibodies and other proteins such as streptavidin and other secondary reagents. Buccutite™ PerCP Conjugation Kit provides a robust and convenient method to conjugate antibodies with PerCP. The kit includes a preactivated PerCP and reaction buffer. The conjugated antibody can be used in WB, ELISA and IHC applications. This kit is sufficient for 2 labeling reactions, each up to 100 ug of antibody. The best ratio for any new antibody reagent must be determined by experimentation. Our kit provides preactivated PerCP to facilitate the PerCP conjugations to antibodies and other proteins such as streptavidin and other secondary reagents. Our preactivated PerCP is ready to conjugate, giving much higher yield than the conventionally tedious SMCC-based conjugation chemistry. In addition, our preactivated PerCP is conjugated to a protein via its amino group that is abundant in proteins while SMCC chemistry targets the thiol group that has to be regenerated by the reduction of antibodies.

### AT A GLANCE

#### Protocol Summary

1. Add 5 µL Reaction Buffer (Component C) into antibody (100 µL)
2. Add the antibody solution into Buccutite™ MTA vial (Component B)
3. Incubate at room temperature for 30 minutes
4. Mix with 50 µL Buccutite™ FOL-Activated PerCP (Component A)
5. Incubate at room temperature for 60 minutes

**Important** Upon receipt, store the kit at 4 °C. When stored properly, the kit should be stable for six months. Alternatively, Component B can be stored at -20 °C. Do not freeze Buccutite™ FOL-Activated PerCP (Component A), Reaction Buffer (Component C). Warm all the components and centrifuge the vials briefly before opening, and immediately prepare the required solutions before starting your conjugation. The following SOP is an example for labeling goat anti-mouse IgG antibody.

### PREPARATION OF WORKING SOLUTION

#### Antibody working solution

For labeling 100 µg antibody (assuming the target antibody concentration is 1 mg/mL), mix 5 µL (5% of the total reaction volume) of Reaction Buffer (Component C) with 100 µL of the target antibody solution.

**Note** If you have a different concentration, adjust the antibody volume accordingly to make ~100 µg antibody available for your labeling reaction.

**Note** The antibody should be dissolved in 1X phosphate buffered saline (PBS), pH 7.2-7.4; If the antibody is dissolved in glycine buffer, it must be dialyzed against 1X PBS, pH 7.2-7.4, or use ReadUse™ 10KD Spin Filter (Cat. # 60502 from AAT Bioquest) to remove free amines or ammonium salts (such as ammonium sulfate and ammonium acetate) that are widely used for antibody precipitation.

**Note** Impure antibodies or antibodies stabilized with bovine serum albumin (BSA) or gelatin will not be labeled well.

**Note** The antibody –Buccutite™ MTA reaction efficiency is significantly reduced if the antibody concentration is less than 1 mg/mL. For optimal labeling efficiency the final antibody concentration range of 1-10 mg/mL is recommended.

### SAMPLE EXPERIMENTAL PROTOCOL

#### Run Antibody-Buccutite™ MTA reaction

1. Add the antibody working solution directly into the vial of Buccutite™ MTA (Component B), and mix them well by repeatedly pipetting for a few times or vortex the vial for a few seconds.
2. Keep the antibody- Buccutite™ MTA reaction mixture at room temperature for 30 - 60 minutes.

**Note** The antibody-Buccutite™ MTA reaction mixture can be rotated or shaken for longer time if desired.

#### Make antibody-PerCP conjugation

1. Make Buccutite™ FOL-Activated PerCP solution by adding 25 µL ddH<sub>2</sub>O into the vial of Buccutite™ FOL-Activated PerCP (Component A), mix well by repeatedly pipetting for a few times or vortex the vial for a few seconds.
2. Mix whole vial of Buccutite™ FOL-Activated PerCP solution into the antibody-Buccutite™ MTA solution, mix well and rotating the mixture for 1 hour at room temperature.
3. The antibody-PerCP conjugate is now ready to use.

**Note** For immediate use, the antibody-PerCP conjugate need be diluted with the buffer of your choice.

#### Storage of Antibody-PerCP Conjugate

The antibody conjugate should be stored at > 0.5 mg/mL in the presence of a carrier protein (e.g., 0.1% bovine serum albumin). The Antibody-PerCP conjugate solution could be stored at 4 °C for two months without significant change when stored in the presence of 2 mM sodium azide and kept from light. For longer storage, the antibody-PE conjugates could be lyophilized and stored at ≤ -20 °C.

**Table 1.** Available fluorophores at AAT Bioquest Buccutite™ Rapid Antibody Labelling Kits

| Cat# | Labels          | Ex (nm) | Em (nm) |
|------|-----------------|---------|---------|
| 1310 | PE              | 565     | 575     |
| 1322 | PE-Cy5          | 565     | 674     |
| 1316 | PE-Cy5.5        | 565     | 700     |
| 1317 | PE-Cy7          | 565     | 780     |
| 1318 | PE-Texas Red    | 565     | 600     |
| 1311 | APC             | 651     | 662     |
| 1319 | APC-iFluor™ 700 | 651     | 713     |
| 1320 | APC-Cy5.5       | 651     | 700     |
| 1321 | APC-Cy7         | 651     | 780     |
| 1325 | PerCP           | 482     | 677     |

**Figure 1.**

AAT Bioquest offers this Buccutite™ rapid labeling kit to facilitate the PerCP conjugations to antibodies and other proteins such as streptavidin and other secondary reagents. Our preactivated PerCP was premodified with our Buccutite™ FOL. Your antibody (or other proteins) is modified with our Buccutite™ MTA to give MTA-modified protein (such as antibody). The MTA-modified protein readily reacts with FOL-modified PerCP to give the desired PerCP -antibody conjugate in much higher yield than the SMCC chemistry. In addition, our preactivated PerCP reacts with MTA-modified biopolymers at much lower concentrations than the SMCC chemistry.

**DISCLAIMER**

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