

Product datasheet

Biotinylation Kit / Biotin Conjugation Kit (Fast, Type B) - Lightning-Link® ab201796

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Overview

Product name

Biotinylation Kit / Biotin Conjugation Kit (Fast, Type B) - Lightning-Link®

Product overview

Biotinylation Kit / Biotin Conjugation Kit ab201796 uses a simple and quick process for biotinylation / biotin labeling of antibodies. It can also be used to conjugate other proteins or peptides. Learn about our [antibody labeling kits and their advantages](#).

To conjugate an antibody to Biotin using this kit:

- add modifier to antibody and incubate for 15 mins
- add quencher and incubate for 5 mins

The conjugated antibody can be used immediately in WB, ELISA, IHC etc. No further purification is required and 100% of the antibody is recovered for use.

Learn about buffer compatibility below; for incompatible buffers and low antibody concentrations, use our rapid [antibody purification and concentration kits](#). Use the [FAQ](#) to learn more about the technology, or about conjugating other proteins and peptides to Biotin.

The Type B Biotinylation Kit / Biotin Conjugation Kit is optimized to produce conjugates for assays in which the biotinylated protein is captured by streptavidin immobilized on a surface (e.g., plates, nitrocellulose, magnetic beads etc).

Use the Type A Biotinylation Kit / Biotin Conjugation Kit [ab201795](#) to produce conjugates for assays in which a streptavidin-labeled detection reagent will be used.

Custom size conjugation kits up to 100 mg are available on demand. Please contact us to discuss your requirements.

Notes

This product is manufactured by Expedeon, an Abcam company, and was previously called Lightning-Link® Rapid Biotin Type B Labeling Kit. 371-0005 is the same as the 100 µg size. 371-0010 is the same as the 3 x 100 µg size. 371-0030 is the same as the 3 x 10 µg size. 371-0015 is the same as the 1 mg size.

Amount and volume of antibody for conjugation to Biotin

<i>Kit size</i>	<i>Recommended amount of antibody¹</i>	<i>Maximum amount of antibody</i>	<i>Maximum antibody volume²</i>
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3 x 10 µg	3 x 10 µg	3 x 20 µg	3 x 10 µL
100 µg	1 x 100 µg	1 x 200 µg	1 x 100 µL
3 x 100 µg	3 x 100 µg	3 x 200 µg	3 x 100 µL
1 x 1 mg	1 x 1 mg	1 x 2 mg	1 x 1 mL

¹ Using the maximum amount of antibody may result in less labelling per antibody.

² Ideal antibody concentration is 1mg/ml. 0.5 - 1 mg/ml can be used if the maximum antibody volume is not exceeded. Antibodies > 5mg/ml or < 0.5 mg/ml should be diluted /concentrated.

Buffer Requirements for Conjugation

Buffer should be pH 6.5-8.5.

Compatible buffer constituents

If a concentration is shown, then the constituent should be no more than the concentration shown. If several constituents are close to the limit of acceptable concentration, then this can inhibit conjugation.

50mM / 0.6% Tris ¹	0.1% BSA ²	50% glycerol
0.1% sodium azide	PBS	Potassium phosphate
Sodium chloride	HEPES	Sucrose
Sodium citrate	EDTA	Trehalose

¹ Tris buffered saline is almost always ≤ 50 mM / 0.6%

² BSA can also interfere with the use of the conjugated antibody in tissue staining.

Incompatible buffer constituents

Thiomerosal	Proclin	Glycine
Arginine	Glutathione	DTT

If a constituent of the buffer containing your antibody or protein is not listed above, please check the [FAQ](#) or [contact us](#).

Only purified antibodies are suitable for use, ie. where other proteins, peptides, or amino acids are not present: antibodies in ascites fluid, serum or hybridoma culture media are incompatible.

Storing and handling conjugation kits

Lyophilized Lightning-Link[®] components are hygroscopic.

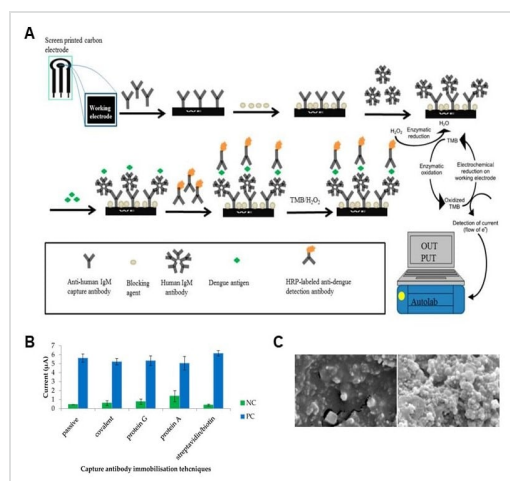
Kits are intentionally shipped at ambient temperature with silica gel to avoid exposure to moisture. Upon receipt, store the kit frozen and protect from moisture. Before opening the outer container, allow the lyophilized components to reach room temperature to minimize condensation.

Storage instructions

Store at -20°C. Please refer to protocols.

Components	1 mg	100 µg	3 x 10 µg	3 x 100 µg
ab274078 - Biotin (Type B) Conjugation Mix	1 x 1mg	1 x 100µg	3 x 10µg	3 x 100µg
ab273994 - Modifier reagent	1 x 200µl	1 x 200µl	1 x 200µl	1 x 200µl
ab273995 - Quencher reagent	1 x 200µl	1 x 200µl	1 x 200µl	1 x 200µl

Images

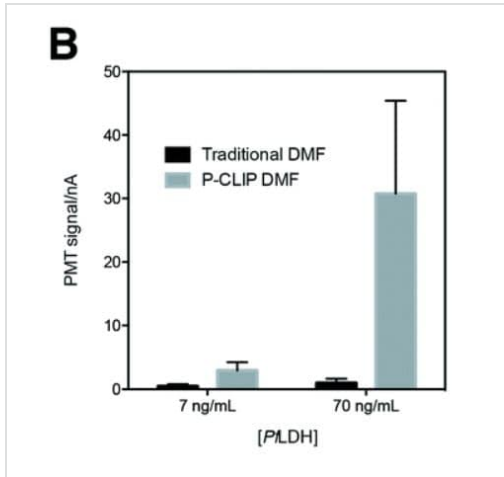


Conjugation - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type B) - Lightning-Link® (ab201796)

Image from Parkash et al., *Diagnostics (Basel)*, 11(1):33; doi: 10.3390/diagnostics11010033. Reproduced under the Creative Commons license <https://creativecommons.org/licenses/by/4.0/>

Parkash, Om, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type B) - Lightning-Link® (ab201796) as part of the development and evaluation of a biosensor based on screen-printed carbon electrodes (SPCEs) for the detection of dengue-specific immunoglobulin M (IgM) antibodies. They used the kit to conjugate Biotinylation Kit / Biotin to anti-Human IgM antibody for use in conjugation.

(A) Schematic diagram of the screen printed carbon electrode (SPCE)-based dengue IgM biosensor. The biosensor was constructed by sequentially adding optimised concentration of anti-human IgM capture antibody, blocking agent, human IgM antibody or serum sample, dengue antigen and detection antibody, with washing steps in between. Electrochemical signal was generated following addition of TMB substrate. (B) Comparison of various immobilisation techniques for the goat anti-human IgM capture antibody. NC: negative control consisting of a dengue IgM negative serum sample; PC: dengue IgM positive serum sample. (C) Field Emission Scanning Electron Microscopy (FESEM) surface images of (left panel) a bare carbon electrode and (right panel) a carbon electrode modified with an anti-human IgM antibody using the streptavidin/biotin immobilisation system. Both capture and detection antibodies were labeled using Lightning-Link® conjugation kits (ab201796 and **ab102890**).

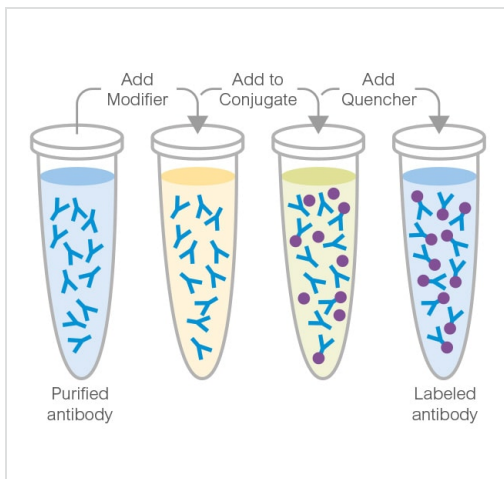


Conjugation - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type B) - Lightning-Link® (ab201796)

Image from Rackus et al., Lab Chip., 17(13):2272-2280; doi: 10.1039/c7lc00440k. Reproduced under the Creative Commons license <https://creativecommons.org/licenses/by/3.0/>

Rackus, Darius G., et al used Biotinylation Kit / Biotin Conjugation Kit (Type B) - Lightning-Link® (ab201796) as part of examining digital microfluidics for detection a malaria biomarker. They used the kit to conjugate Biotinylation Kit / Biotin to anti-Plasmodium falciparum LDH antibody for use in pre-concentration by liquid intake by paper (P-CLIP).

DMF immunoassay for PfLDH. Comparison of mean signals obtained by traditional DMF-ELISA (black) and P-CLIP modified DMF-ELISA (grey) for concentrations below the limit of detection (7 ng mL⁻¹) and limit of quantitation (70 ng mL⁻¹) of the traditional DMF-ELISA. Error bars ± 1 std. dev. (n = 3).



Conjugation - Biotin (type B) Conjugation Kit (ab201796)

This illustration demonstrates a general procedure and will slightly vary dependent on the conjugate used.

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