abcam

ab201795

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

Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) offers several standout features:

- Rapid Conjugation: achieve Biotin labeling in under 20 minutes with just 30 seconds of hands-on time.
- High Efficiency: ensures 100% antibody recovery, meaning no loss of valuable antibodies.
- Versatility: suitable for conjugating antibodies, proteins, and peptides. Biotin-labeled antibodies can be used immediately in applications such as Western blot, Flow cytometry, ELISA, and Immunohistochemistry (IHC) without further purification.
- Proven performance: cited in over 70 publications.

What's included?

1 mg

Components

Quencher reagent

1 x 200 µL

Biotin (Type A) Conjugation Mix

1 x 1 mg

Modifier reagent

1 x 200 µL

100 µg

Components

Biotin (Type A) Conjugation Mix

1 x 100 µg

Quencher reagent

1 x 200 µL

Modifier reagent

1 x 200 µL

3 x 10 µg

Components

Modifier reagent

1 x 200 µL

Quencher reagent

1 x 200 µL

Biotin (Type A) Conjugation Mix

3 x 10 µg

3 x 100 µg

Components

Biotin (Type A) Conjugation Mix

3 x 100 µg

Modifier reagent

1 x 200 µL

Quencher reagent

1 x 200 µL

Reactivity data

Application	Conjugation
Reactivity	Reacts
Dilution info	-
Notes	-

Storage

Shipped at conditions	Ambient - Cannot Ship with Ice

Appropriate short-term storage conditions	-20°C
Appropriate long-term storage conditions	-20°C
Storage information	-20°C

Notes

Biotinylation Kit / Biotin Conjugation Kit (Type A) (ab201795) 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 biotin 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 A Biotinylation Kit / Biotin Conjugation Kit has been optimized to produce conjugates for assays in which a streptavidin-labeled detection reagent will be used.

Use the Type B Biotinylation Kit / Biotin Conjugation Kit ab201796 for assays in which the biotinylated protein is captured by streptavidin immobilized on a surface (e.g. plates, nitrocellulose, magnetic beads etc).

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

This product is manufactured by Expedeon, an Abcam company, and was previously called Lightning-Link® Rapid Biotin Type A Labeling Kit. 370-0005 is the same as the 100 µg size. 370-0010 is the same as the 3 x 100 ug size. 370-0030 is the same as the 3 x 10 ug size. 370-0015 is the same as the 1 mg size.

Amount and volume of antibody for conjugation to Biotin

Kit size	*Recommended amount of antibody*[1]	*Maximum amount of antibody*	*Maximum antibody volume*[2]
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 > 2mg/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 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.

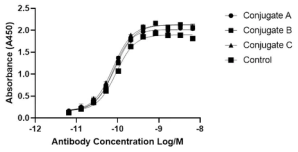
Product promise

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

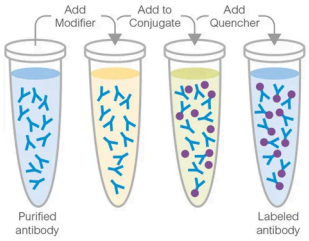
Full details and terms and conditions can be found here:
Terms & Conditions.

12 product images



ELISA - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Direct ELISA dose response curve generated with varying concentration of biotin conjugated antibodies. Anti-MMP1 antibody [EPR19769-152] - BSA and Azide free (Detector) (ab242835), Anti-EGF antibody [EPR19899-46] - BSA and Azide free (Detector) (ab242990),Anti-IL-5 antibody [EPR20012-256] - BSA and Azide free (Capture) (ab242955) and Anti-MMP9 antibody [EPR18543-47] - BSA and Azide free (Capture) (ab242950) were conjugated to biotin using Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) to produce Conjugate A, B, C and Control respectively. Briefly, each well was coated with Recombinant Protein G. After blocking with 5% BSA blocking buffer for 2 hours, plates were coated with 1ug/ml of biotin conjugated antibodies. Detection was performed using a HRP-conjugated Streptavidin (ab7403), and visualised using a TMB substrate. Plates were read at 450nm using an Agilent BioTek Synergy HTX multimode reader.



Schematic Diagram - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

This illustration demonstrates a general procedure of how the Lightning-Link®(Fast) labeling technology enables the direct labeling of antibodies or proteins.

Simply pipette your antibody or biomolecule of choice into the vial of a lyophilized mixture containing the label of interest and incubate for just 15 minutes. Please see the ab201795 protocol booklet for more details.

Learn more about our Lightning-Link® conjugation kits here

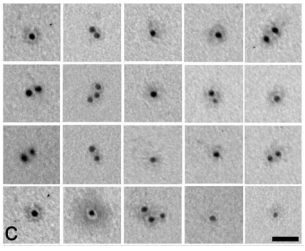


Image from Hansen, Uwe, et al., Plos one, 7(12): e52793.; doi: 10.1371/journal.pone.0052793. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

Electron Microscopy - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Electron Microscopy - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) Lightning-Link. Hansen, Uwe, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining WARP-collagen IV interactions in in vitro in cartilage. They used the kit to conjugate biotin to recombinant WARP for use in Electron Microscopy.
Biotinylated recombinant WARP was visualized by 5 nm gold labeled with streptavidin. Scale bar is 25 nm

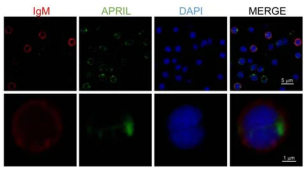


Image from Soleto, Irene, et al., Frontiers in immunology, 9:1880. doi: 10.3389/fimmu.2018.01880; Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

Fluorescence Microscopy - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Fluorescence Microscopy - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link.
Soleto, Irene, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining the effect of APRIL on B cells using rainbow trout (Oncorhynchus mykiss) as a model species. They used the kit to conjugate biotin to a recombinant trout proliferation-inducing ligand (APRIL) for use in Fluorescence microscopy.
Total leukocytes from spleen were incubated with recombinant biotinylated APRIL (1 µg/ml) for 15 min, then plated onto poly-l-lysine-coated glass slides, fixed and labeled with anti-IgM (shown as red) and FITC-streptavidin (APRIL, shown as green), then counterstained with DAPI (blue), and analyzed by confocal fluorescence microscopy.

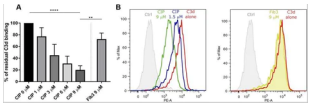


Image from Giussani, Stefania, et al., The FASEB Journal 33.3 (2019): 4448-4457. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

Flow Cytometry - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Flow Cytometry - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link.
Giussani, Stefania, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining interaction of C3d ligand with complement interfering protein (CIP). They used the kit to conjugate biotin to C3d for use in flow cytometry.
Flow cytometry analysis of C3d interaction with B cells in presence or absence of Complement Interfering Protein (CIP). A) Biotinylated C3d was preincubated with SA and then with 1–9 µM of CIP, 9 µM of Fib3, or buffer alone. Each mixture was added to Raji B cells and treated as described. Binding of the biotinylated C3d–SA complex to cells was revealed by flow cytometry using a C3d-specific mAb and a phycoerythrin-labeled secondary antibody. Mean fluorescence intensity values of the peaks were analyzed by the FlowJo software. The graph shows the percentage of the residual mean fluorescence intensity values in the presence of a competitor compared with buffer alone, as derived from 4 independent experiments. B) Flow cytometry analysis of C3d binding to enriched B cells from human PBMCs in presence or absence of 1.5 or 9 µM CIP or 9 µM of Fib3; experimental conditions were the same as in A.

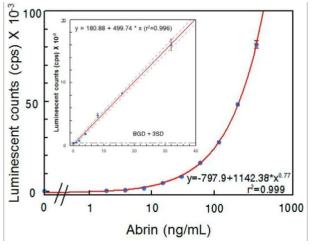


Image from He, Xiaohua, et al., Toxins 9.12 (2017): 386. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

ELISA - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

ELISA - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link.
He, Xiaohua, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining the detection of abrin by monoclonal antibodies. They used the kit to conjugate biotin to anti-Abrin antibody for use in ELISA.
Detection of abrin in PBS by ELISA. Data represent the average of three determinations ± SD. Limit of detection (LOD) for the mixture of abrin was 1 ng/mL. The one-sided 95% confidence intervals on the fitted line are shown as dashed curves.

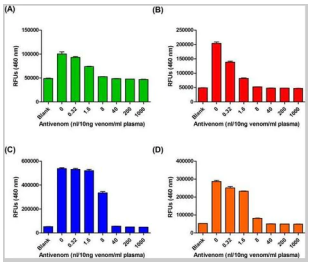


Image from Liu, Chien-Chun, et al., PLoS Negl Trop Dis;12(12): e0007014. doi: 10.1371/journal.pntd.0007014. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

ELISA - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

ELISA - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A)- Lightning-Link).
Liu, Chien-Chun, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining assays for snakebite detection based on clinical antivenom usage. They used the kit to conjugate biotin to neurotoxic species-specific antibodies (NSS-Abs) and hemorrhagic species-specific antibodies (HSS-Abs) for use in ELISA.
(A, B) Venom proteins of (A) Trimeresurus stejnegeri and (B) Protobothrops mucrosquamatus were diluted in human plasma (10 ng venom protein per ml of plasma) and then mixed with serially diluted Freeze-dried hemorrhagic antivenom (FHAV) (0.32 to 1000 nl) at room temperature for 30 min. The mixtures were then subjected to HSS-Ab–based sandwich ELISA assay. (C, D) Venom proteins of (C) Bungarus multicinctus and (D) Naja atra were diluted in human plasma (10 ng venom protein per ml of plasma) and then mixed with serially diluted FHAV (0.32 to 1000 nl) at room temperature for 30 min. The mixtures were then subjected to NSS-Ab–based sandwich ELISA assay.

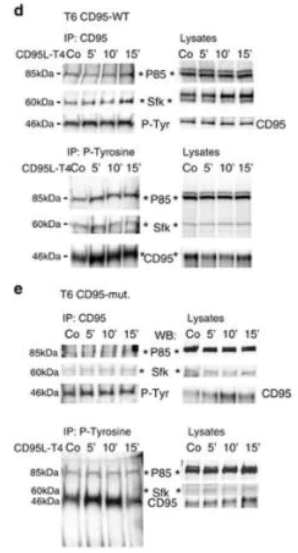


Image from Drachsler, Moritz, et al., Cell death & disease 7.4 (2016): e2209-e2209. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

Western blot - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Drachsler, Moritz, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining expression of CD95. They used the kit to conjugate biotin to anti-human CD95 for use in Western blot.
IP for CD95 and P-Tyrosine GSCs in naive, CD95-WT and CD95-mut GBM cells stimulated with CD95L-T4. Blots were probed with anti-P85 (regulatory PI3K subunit), anti-Sfk, anti-CD95 or anti-P-Tyrosine antibodies, respectively.

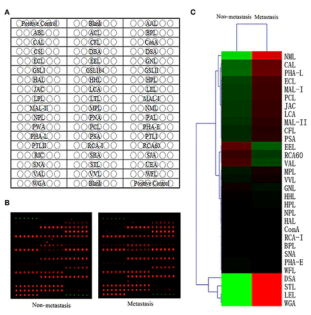


Image from Liu T et al., Front Physiol., 8:472. Fig 1.; doi:

Peptide Array - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Biotinylation Kit / Biotin Conjugation Kit (Type A) - Lightning-Link® labeling total proteins from lysate for a lectin microarray.
Liu T et al. used ab201795 as part of examining glycobiomarker in hepatocellular carcinoma metastasis.

They used the kit to conjugate biotin to total proteins from lysate for use in a lectin microarray.

Lectin microarray analysis of glycoforms. (A) The lectin microarray contains 50 lectin spots with different binding specificities. (B) Scan image of the lectin microarray incubated with biotinylated

10.3389/fphys.2017.00472 . Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

proteins and Cy5 labeled streptavidin. Typical glycan profiles of HCC with metastasis were shown on the right and HCC with non-metastasis on the left. (C) Hierarchical clustering of positive lectin binding spots (S/B≥2). Each row represented a single lectin, S/B values were shown by the color scale: red represents a lectin with high S/B value while green represents a lectin with low S/B value.

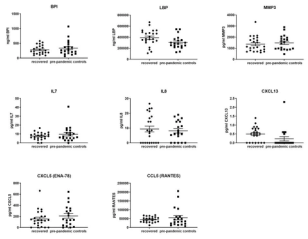


Image from Hahnel, Viola, et al., PloS one, 15(12): e0243967; doi: 10.1371/journal.pone.0243967. Reproduced under the Creative Commons license https://creativecommons.org/licenses/by/4.0/

Multiplex Protein Detection - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Hähnel, Viola, et al used Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795) as part of examining cytokine levels of plasma donors. They used the kit to conjugate Biotinylation Kit / Biotin to cytokine proteins for use in multiplex protein detection. Cytokines, lipopolysaccharide binding protein (LBP) and bactericidal permeability increasing protein (BPI) of convalescent donors were compared to healthy control group. The following cytokines were below limit of detection: IL1β, IL1RA, IL2, IL3, IL6, IL10, IL12p40, IL15, IL21, IL22, IL23, IFNβ, IFNγ, GM-CSF, MIP1α and TNFα.



Other - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Representative image of Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Components shown from left to right :

Biotin mix (1 vial for 100 µg, 1 mg)

Modifier reagent (1 vial)

Quencher reagent (1 vial)

Securitainer

Note : The vial labels shown in this image use generic names for illustrative purposes only and may not exactly match the specific component names included in the conjugation kit.

Note : Color of the lyophilized material in image may not precisely match the color shade in the actual kit.



Other - Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Representative image of Biotinylation Kit / Biotin Conjugation Kit (Fast, Type A) - Lightning-Link® (ab201795)

Components shown from left to right :

Biotin (Type A) mix (3 vials for 3x 10 µg, 3x 100 µg)

Modifier reagent (1 vial)

Quencher reagent (1 vial)

Securitainer

Note : The vial labels shown in this image use generic names for illustrative purposes only and may not exactly match the specific component names included in the conjugation kit.

Note : Color of the lyophilized material in image may not precisely match the color shade in the actual kit.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.