

# Lightning-Link<sup>®</sup> Metal Labeling Kit

Applicable to: **Lightning-Link<sup>®</sup> Metal Labeling kit/ M-series** - 1 vial to label 10 µg of antibody or 1 vial to label 100 µg of antibody

Release 1. © EXPEDEON. 24/06/2019

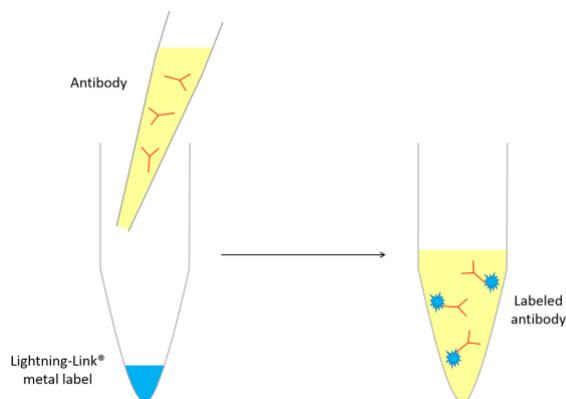
## INTRODUCTION

Lightning-Link<sup>®</sup> conjugation technology works by targeting amine groups (e.g. lysines) and is widely used to label antibodies.

Current metal conjugation protocols are complex and time-consuming procedures, resulting in low antibody recovery.

The Lightning-Link<sup>®</sup> Metal Labeling Kits allows isotopically pure metal conjugations to be set up in *less than 30 seconds*, simply by adding a solution of the antibody to a lyophilized mixture containing a proprietary activated metal ligand (Figure 1).

Figure 1. Lightning-Link<sup>®</sup> antibody conjugation



By eliminating the desalting, dialysis and spin filtering steps that commonly interrupt traditional antibody conjugation procedures, Lightning-Link<sup>®</sup> technology can be used to label both small (e.g. 10 µg) and large quantities of primary antibodies with ease.

Batch-to batch variation is minimal, while antibody recovery is always 100%.

## KIT CONTENTS

- 1 vial of Lightning-Link<sup>®</sup> Metal mix (10 µg or 100 µg antibody conjugation)
- 1 vial of LL-Rapid Modifier reagent
- 1 vial of LL-Quencher FD reagent

## SHIPPING CONDITIONS

The kit is shipped at ambient temperature in a tamper-evident polypropylene container. Store the kits at -20°C upon receipt.

Please note that the LL-Rapid Modifier reagent and LL-Quencher FD reagent can be stored at either 4°C or -20°C after initial thawing.

## BUFFER CONSIDERATIONS

Please see the below table for recommended buffer conditions and components:

Buffer components	
pH	6.5-8.5
Amine free buffer (e.g. MES, MOPS, HEPES, PBS)	✓
Non-buffering salts (e.g. sodium chloride)	✓
Chelating agents (e.g. EDTA)	✓
Sugars	✓
Glycerol	<50%
Thiomersal / Thimerosal	✗
Merthiolate	✗
Sodium Azide <sup>1</sup>	<0.1%
BSA <sup>1</sup>	<0.1%
Gelatin <sup>1</sup>	<0.1%
Tris	<50mM
Glycine	✗
Proclin	✗
Borate buffer	✓
Nucleophilic components (Primary amines e.g. amino acids or ethanolamine and thiols e.g. mercaptoethanol or DTT)	✗

<sup>1</sup> Please note that individually the concentrations shown should not affect the reaction. However, in combination with additional compounds, which are not recommended above certain concentrations, the reaction may be affected.

## INSTRUCTIONS

Setting up your conjugation reaction:

1. Allow all the reagent to warm to room temperature.
2. Dilute your antibody down to 1 mg/ml (see table for buffer compatibility) and add 1 µl of LL-Rapid Modifier reagent for each 10 µl of antibody to be conjugated. 11 µl or 110 µl of the antibody mix is required for 10 µg or 100 µg vial, respectively.
3. Remove the screw cap from the vial of Lightning-Link® vial and pipette 11 µl or 110 µl (10 µg or 100 µg vial respectively) of antibody mixture directly onto the lyophilized material. Resuspend gently by withdrawing and re-dispensing the liquid until the solution is clear.
4. Place the cap back on the vial and allow conjugation to take place at room temperature (20 - 25°C) for 1 hour.
5. At the end of the conjugation time, add 1 µl or 10 µl (10 µg or 100 µg vial respectively) of LL-Quencher FD reagent. The conjugates are ready for use after 15 minutes. The conjugates do not require purification. .

## STORAGE OF CONJUGATES

The conjugates can be stored at 4°C. For long term storage, the conjugates can be stored at -20°C with a cryoprotectant such as 50% glycerol.

The best storage conditions for any particular conjugate must be determined by the user (through experimentation).

## WHAT CAN I LABEL USING LIGHTNING-LINK® METAL KITS?

Lightning-Link® technology works by targeting free amine groups. It can be used to label antibodies, peptides, proteins and other molecules with free amine groups.

The protocol provided here is optimized for labeling IgGs.

Lightning-Link® FAQ page for antibody related questions:

<https://www.expedeon.com/faqs/lightning-link-kits-faqs/>

## CUSTOM SERVICE

Lightning-Link® Metal Labeling Kits have been designed to work with any antibody to generate superior conjugates. However, if you prefer to outsource the conjugation, our expert conjugation scientists can provide you with your required antibody conjugate at your agreed conjugation ratio and scale. Find out more about our Antibody Conjugation and Antibody Miro-optimization services by contacting [info@expedeon.com](mailto:info@expedeon.com)

## TECHNICAL SUPPORT

For technical enquiries get in touch with our technical support team at: [www.expedeon.com/contact/](http://www.expedeon.com/contact/)

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