

# Lightning-Link® CaptSure™ Peptide Conjugation Kit

Applicable to: 6300007

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## INTRODUCTION

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

The Lightning-Link CaptSure Peptide (LL-CS) conjugation kit allows the CaptSure peptide conjugation 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 CaptSure peptide (Figure 1).

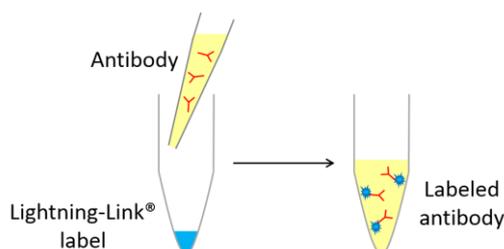


Figure 1. Lightning-Link antibody conjugation.

By circumventing the desalting or dialysis steps that commonly interrupt traditional antibody conjugation procedures, Lightning-Link technology can be used to label both small (e.g. 20 µg) and large quantities of primary antibodies with ease. Batch-to-batch variation upon scale-up is minimal as the process is so simple, and recoveries are always 100%.

Lightning-Link technology can also be used to label proteins, peptides and other biomolecules (See the 'What can I label using Lightning-Link?' section of the protocol for further information).

Capture antibodies tagged with LL-CS peptide are paired with detection antibodies labeled with Lightning-Link HRP (LL-HRP) to be then used within CaptSure DIY ELISA. Upon addition to the CaptSure Assay Plate, the non-biological CaptSure peptide is bound with high affinity to the CaptSure antibody, pre-coated on the plates, and the immuno-complex is thus immobilized into the well.

The proprietary CaptSure DIY ELISA has been validated with hundreds of different antibody pairs and is the simplest system on the market for building fast, high quality ELISA assays.

## KIT CONTENTS

- 3 glass vials of Lightning-Link CaptSure Peptide
- 1 vial of LL-CS Modifier reagent
- 1 vial of LL-CS Quencher 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 modifier and quencher after initial thawing can be stored at either 4°C or -20°C.

## 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	≤25%
Thiomersal / Thimerosal	✗
Merthiolate	✗
Sodium Azide	≤0.25%
BSA	✗
Gelatin	✗
Tris	≤50mM
Glycine	✗
ProClin300	≤0.01%
Borate buffer	✓
Nucleophilic components (Primary amines e.g. amino acids or ethanolamine and thiols e.g. mercaptoethanol or DTT)	✗

## AMOUNT AND VOLUME OF ANTIBODY

Prod. Code	Amount of antibody for conjugation	Maximum Antibody Conjugation volume
6300007	20-200 µg	100 µL

Lightning-Link CaptSure Peptide has been optimized to enable the flexible labelling of 20 µg to 200 µg of antibody. High performing antibody conjugates can be generated over a broad antibody concentration range of 0.2-2.0 mg/mL in a 100 µL reaction volume. We recommend not altering the reaction volume as this will alter the kinetics of the conjugation reaction.

If antibodies are used at the lower concentration (e.g. 0.2 mg/mL), excess free CaptSure Peptide will be present post conjugation. This excess label will be deactivated by the quencher and does not pose a problem when used on CaptSure assay plates. Surplus CaptSure peptide binding sites are available on CaptSure™ assay plates to accommodate excess free label.

## INSTRUCTIONS

Setting up your conjugation reaction

1. To your antibody solution, add a 1/10<sup>th</sup> volume of LL-CS Modifier, and mix gently (eg add 1 µL of LL-CS Modifier for each 10 µL of antibody to be labelled).
2. Add this mix containing antibody and LL-CS Modifier to the Lightning-Link CaptSure Peptide vial.
3. Resuspend the lyophilized material by gently pipetting up and down.
4. Place the cap back on the vial and leave the vial standing for 45 minutes at room temperature (20-25°C).
5. After incubating for 45 minutes, add 1 µL of LL-CS Quencher reagent for every 10 µL of antibody used and incubate for 15 minutes. No separation steps are necessary.

## STORAGE OF CONJUGATES

For long term storage, CaptSure peptide-tagged antibodies can be stored at -20°C with a cryoprotectant such as 50% glycerol. Under such conditions, antibody conjugates are generally stable for ≥ 2 years.

The best storage conditions for any particular conjugate must be determined by experimentation.

## WHAT CAN I LABEL USING LIGHTNING-LINK?

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. When labeling other molecules please contact our technical support team at: [www.expedeon.com/contact/](http://www.expedeon.com/contact/)

Our custom conjugation service team will also be happy to generate your conjugate for you. Please contact our sales team for a quote. [www.expedeon.com/contact/](http://www.expedeon.com/contact/)

## WHAT IF MY BUFFER DOESN'T FIT THE REQUIREMENTS?

The AbSelect™ purification kit range allows you to quickly and simply purify your antibody using our conjugation friendly buffers. The appropriate kit to use depends on your particular sample. Please view our AbSelect range of products on our website to select the best kit.

If your antibody is already purified but its concentration is too low, you can concentrate it by using our AbSelect Antibody Concentration and Clean Up Kit (product code 861-0010). This kit can also be used to remove low molecular weight contaminants such as azide, Tris or glycine.

If your antibody contains BSA, you can use our AbSelect BSA removal kit (product code 820-0100) to purify your antibody in one simple step.

Our AbSelect kits are fully compatible with Lightning-Link and are designed to work with IgG antibodies. The only exception is the Concentration and Clean Up kit (product code 861-0010) which will work with any molecule greater than 10kDa.

## TECHNICAL SUPPORT

For technical enquiries get in touch with our technical support team at: [technical.enquiries@expedeon.com](mailto:technical.enquiries@expedeon.com)

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