

# Product Datasheet

## Lightning-Link (R) HRP Antibody Labeling Kit 701-0004

Unit Size: 5 mg

Store at -20C.

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**701-0004****Lightning-Link (R) HRP Antibody Labeling Kit**

<b>Product Information</b>	
<b>Unit Size</b>	5 mg
<b>Concentration</b>	Concentration is not relevant for this product. Please see the protocols for proper use of this product.
<b>Storage</b>	Store at -20C.
<b>Conjugate</b>	HRP
<b>Product Description</b>	
<b>Description</b>	<p>Lightning-Link antibody labeling kits enable the direct labeling of antibodies, proteins, peptides or other biomolecules for use in R&amp;D applications, drug discovery and the development of diagnostic kits (See protocol for further information).</p> <p>Our HRP antibody labeling kit enables the direct conjugation of Horseradish Peroxidase to any biomolecule with an available amine group. The researcher simply pipettes their antibody or other biomolecule into the vial of Lightning-Link HRP and incubates for 3 hours.</p> <p><b>Features</b>Quick and easy to use  <b>Benefits</b>Save time, no special knowledge required            No separation steps            100% recovery - no antibody/protein loss            Can be used in a wide range of applications            Flexible            Freeze dried            Ships at ambient temperature, long shelf-life            Fully scalable (10 ug to 1 g or more)            Easy transfer from R&amp;D to manufacturing            Stringently QC tested            Consistent high quality, excellent batch-to-batch reproducibility            Large number of labels available            Experimental flexibility            Reliable: nearly 300 references            Successfully used in many fields of research</p> <p>Horseradish peroxidase is a 44kDa glycoprotein with 6 lysine residues. The enzyme label can be visualized by chromogenic reactions; for example diaminobenzidine (DAB) in the presence of hydrogen peroxide (H2O2) is converted in to a water insoluble brown pigment. Other substrates which can be used to measure horseradish peroxidase activity include ABTS, TMB and TMBUS.</p> <p>Learn more about Lightning-Link™ Conjugation Kits by reading <a href="#">FAQs</a></p> <p>For more information please check out these useful links!  <a href="#">Antibody Labeling Guide</a>  <a href="#">Antibody Conjugation Illustrated Assay</a></p>
<b>Kit Components</b>	1 or 3 or 5 glass vial(s) of Lightning-Link mix, 1 vial of LL-Modifier reagent, 1 vial of LL-Quencher reagent
<b>Notes</b>	<p>This product is manufactured by Abcam and distributed by Novus Biologicals.</p> <p>This product is for research use only and is not approved for use in humans or in clinical diagnosis. This product is guaranteed for 1 year from date of receipt and this statement overrides any mentioned guarantee period on the limitations section of this products datasheet. Please contact <a href="mailto:technical@novusbio.com">technical@novusbio.com</a> with questions.</p>
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Immunohistochemistry, Immunohistochemistry-Paraffin





<b>Recommended Dilutions</b>	Western Blot, Immunohistochemistry, Immunohistochemistry-Paraffin
<b>Application Notes</b>	By circumventing the desalting or dialysis steps that commonly interrupt traditional antibody conjugation procedures, LightningLink technology can be used to label both small (e.g. 10 ug) 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%. This kit can be used to label up to 20 mg of antibody, and is supplied in one vial.



## Images

### Western Blot: Lightning-Link HRP Antibody Labeling Kit [701-0004]

	conjugated	unconjugated
Primary antibody	Goat Anti-GFAP	Goat Anti-GFAP
Target	GFAP	GFAP
Sample lysate	mouse brain	mouse brain
Primary antibody working concentration	0.185 µg/ml	0.5 µg/ml
Secondary antibody used	no (direct conjugation)	yes
Exposure time (min)	3	3
Primary antibody source	Everest Biotech, Cat no: EB07476	
Western blot analysis		
	50kDa 37kDa	50kDa 37kDa

### Immunohistochemistry-Paraffin: Lightning-Link HRP Antibody Labeling Kit [701-0004]

#### Lightning-Link® Comparative Data

Anti-human CD20 (clone L26) was conjugated to HRP using Lightning-Link® kits, and used in IHC in comparison to a traditional indirect technique



Unconjugated L26, visualised with Dako EnVision



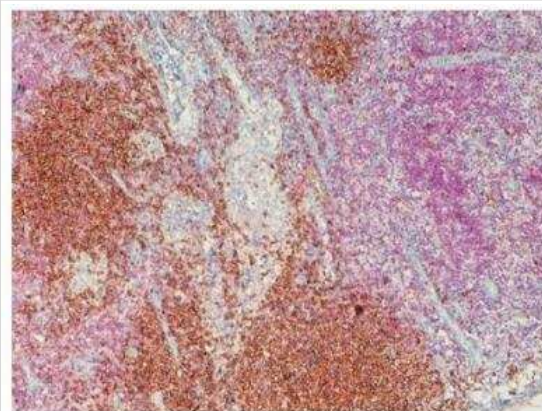
HRP conjugated L26, 1/100

Samples shown are formalin-fixed, paraffin-embedded human bone marrow. CD20 is a B cell specific marker.

### Western Blot: Lightning-Link HRP Antibody Labeling Kit [701-0004]

	conjugated	unconjugated
Primary antibody	Goat Anti-NQO1	Goat Anti-NQO1
Target	quinone reductase 1	quinone reductase 1
Sample lysate	human kidney	human kidney
Primary antibody working concentration	0.00425 µg/ml	0.1 µg/ml
Secondary antibody used	no (direct conjugation)	yes
Exposure time (min)	10	10
Primary antibody source	Everest Biotech, Cat no: EB05370	
Western blot analysis		
	37kDa 25kDa	37kDa 25kDa

Immunohistochemistry-Paraffin: Lightning-Link HRP Antibody Labeling Kit [701-0004] - Brown= CD20 labeled with HRP, Red= CD3 labeled with alkaline phosphatase. Mouse anti-human CD20 was conjugated to HRP using Lightning-Link® kits, and rat anti human CD3 was conjugated to Alkaline Phosphatase using Lightning Link®. Both antibodies were then used simultaneously to stain formalin fixed paraffin fixed embedded sections of human lymph node. CD20 positive cells are visualized with DAB and are stained brown, and CD3 visualized with Fast Red and stained red.



## Publications

Welch NG, Lebot CJ, Easton CD et al. Polypropylene microtitre plates modified with [Cr(OH)6]3 - for enhanced ELISA sensitivity. J Immunol Methods. 2017-01-01 [PMID: 28365327]

Hijmans RS, Rasmussen DG, Yazdani S et al. Urinary collagen degradation products as early markers of progressive renal fibrosis. J Transl Med. 2017-03-20 [PMID: 28320405]

Rasmussen DG, Sand JM, Karsdal MA, Genovese F. Development of a Novel Enzyme-Linked Immunosorbent Assay Targeting a Neo-Epitope Generated by Cathepsin-Mediated Turnover of Type III Collagen and Its Application in Chronic Obstructive Pulmonary Disease. PLoS One. 2017-01-11 [PMID: 28076408]

Furman JL, Vaquer-Alicea J, White CL 3rd et al. Widespread tau seeding activity at early Braak stages. Acta Neuropathol. 2017-01-01 [PMID: 27878366]

Welch NG, Madiona RM, Easton CD et al. Chromium functionalized diglyme plasma polymer coating enhances enzyme-linked immunosorbent assay performance. Biointerphases. 2016-01-01 [PMID: 27835921]

Welch NG, Easton CD, Scoble JA et al. A chemiluminescent sandwich ELISA enhancement method using a chromium (III) coordination complex. J Immunol Methods. 2016-01-01 [PMID: 27650427]

Welch NG, Scoble JA, Easton CD et al. High-throughput Production of Chromium (III) Complexes for Antibody Immobilization. Anal Chem. 2016-01-01 [PMID: 27644116]

Mao S, Ou X, Zhu D et al. Development and evaluation of indirect ELISAs for the detection of IgG, IgM and IgA1 against duck hepatitis A virus 1. J Virol Methods. 2016-01-01 [PMID: 27577105]

Hansen NU, Willumsen N, Sand JM et al. Type VIII collagen is elevated in diseases associated with angiogenesis and vascular remodeling. Clin Biochem. 2016-01-01 [PMID: 27234597]

Xu QY, Sun EC, Feng YF et al. Development of a novel protein chip for the detection of bluetongue virus in China. J Virol Methods. 2016-01-01 [PMID: 27063641]

Mistilis MJ, Joyce JC, Esser ES et al. Long-term stability of influenza vaccine in a dissolving microneedle patch. Drug Deliv Transl Res. 2017-01-01 [PMID: 26926241]

Kaeffer T, Matho MH, Meng X et al. Linear epitopes in A27 are targets of protective antibodies induced by vaccination against smallpox. J Virol. 2016-04-14 [PMID: 26889021]

More publications at <http://www.novusbio.com/701-0004>





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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Kits are guaranteed for 6 months from date of receipt.

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