



# Anti-human Laminin $\alpha$ 1 Antibody

## ORDERING INFORMATION

**Catalog Number:** AF4187

**Lot Number:** ZHL02

**Size:** 100  $\mu$ g

**Formulation:** 0.2  $\mu$ m filtered solution in PBS with 5% trehalose

**Storage:** -20° C

**Reconstitution:** sterile PBS

**Specificity:** human Laminin  $\alpha$ 1

**Immunogen:** *E. coli*-derived rhLaminin  $\alpha$ 1 N-terminal domain VI

**Ig Type:** goat IgG

**Applications:** Western blot  
Immunohistochemistry  
Direct ELISA

## Background

Laminin subunit  $\alpha$ 1 (LAMA1) is a secreted 400 kDa extracellular matrix glycoprotein that contributes to the formation of basement membrane Laminin isoforms 1 and 3. It is one of three subunits ( $\alpha$ ,  $\beta$ , and  $\gamma$ ) that interact via their coiled-coil domains to form the approximately 800 kDa cruciform, disulfide-linked, Laminin heterotrimer. The 3058 amino acid (aa) residue mature human  $\alpha$ 1 chain contains an N-terminal Laminin VI domain (aa 18 - 269), followed by domains V through III containing 17 EGF-like repeats, the coiled-coil domains II and I, and five globular, Laminin G-like domains. Over aa 22 - 269, human Laminin  $\alpha$ 1 shares 95% and 91% aa sequence identity with canine and mouse  $\alpha$ 1 chain, respectively.

## Preparation

Produced in a goat immunized with purified, *E. coli*-derived, recombinant human Laminin  $\alpha$ 1 N-terminal domain VI (rhLaminin  $\alpha$ 1; aa 22 - 269; Accession # P25391). Human Laminin  $\alpha$ 1 specific IgG was purified by human Laminin  $\alpha$ 1 affinity chromatography.

## Formulation

Lyophilized from a 0.2  $\mu$ m filtered solution in phosphate-buffered saline (PBS) with 5% trehalose.

## Reconstitution

Reconstitute with sterile PBS. If 0.5 mL of PBS is used, the antibody concentration will be 0.2 mg/mL.

## Storage

Lyophilized samples are stable for twelve months from date of receipt when stored at -20° C to -70° C. Upon reconstitution, the antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Reconstituted antibody can also be aliquotted and stored frozen at -20° C to -70° C in a manual defrost freezer for six months without detectable loss of activity. **Avoid repeated freeze-thaw cycles.**

## Specificity

This antibody has been selected for its ability to recognize human Laminin  $\alpha$ 1 in the applications listed below. In direct ELISAs and Western blots, this antibody shows less than 1% cross-reactivity with rmLAMA4.

## Applications

**Western blot** - This antibody can be used at 0.1 - 0.2  $\mu$ g/mL with the appropriate secondary reagents to detect human Laminin  $\alpha$ 1. The detection limit for rhLaminin  $\alpha$ 1 is approximately 25 ng/lane and 5 ng/lane under non-reducing and reducing conditions, respectively.

**Immunohistochemistry** - This antibody has been used at a concentration of 10  $\mu$ g/mL to detect Laminin  $\alpha$ 1 in cryosections of E10.5 mouse embryos. Tissue was fixed overnight in 4% PFA+14% picric acid in PBS at 4° C. Sections were blocked with 10% donkey serum and 0.1% Triton<sup>®</sup> in 1% BSA in PBS for 45 minutes at room temperature. After blocking, sections were incubated with primary antibody for 3 hours at room temperature followed by Northern Lights<sup>™</sup> 557 conjugated anti-goat IgG (R&D Systems, Catalog # NL001) at room temperature for 1 hour. Between each step, sections were washed with 0.1% BSA in PBS.

**Direct ELISA** - This antibody can be used at 0.5 - 1.0  $\mu$ g/mL with the appropriate secondary reagents to detect human Laminin  $\alpha$ 1. The detection limit for rhLaminin  $\alpha$ 1 is approximately 1.3 ng/well.

**Optimal dilutions should be determined by each laboratory for each application.**

FOR RESEARCH USE ONLY. NOT FOR USE IN HUMANS.

**R&D Systems, Inc.**  
**1-800-343-7475**