

# Anti-Laminin- $\alpha$ 3A

# Anti-Laminin- $\alpha$ 3B

# Anti-Laminin- $\gamma$ 2 N-terminal

# Anti-Laminin-511

For more information : [http://www.funakoshi.co.jp/exports\\_contents/81185](http://www.funakoshi.co.jp/exports_contents/81185)

Laminins are major extracellular matrix proteins containing over 15 members. Laminins are large heterotrimers consisting of 5 alpha chains, 3 beta chains, and 3 gamma chains. Due to its structural varieties, it has been challenging to detect each laminin isoform by conventional antibodies.

Funakoshi commercialized 4 unique antibodies, originally developed by Dr. Kaoru Miyazaki, Professor Emeritus of Yokohama City University in Japan.

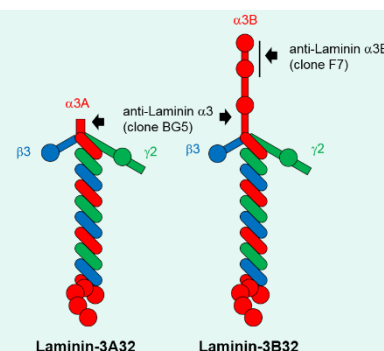
**Our antibodies can separately recognize specific isoforms or structures of laminin.**

This product has been commercialized under the license of the Yokohama City University.

### ■ Anti-Laminin- $\alpha$ 3A (BG5) / Anti-Laminin- $\alpha$ 3B (F7)

These antibodies recognize isoforms of Laminin-332 (Lm332), which is related to cancer. Clone BG5 is a specific antibody for alpha 3A. In IHC, BG5 recognizes Lm3A31 and Lm3A11 on basement membrane. Clone F7 is the world first commercially available antibody for alpha 3B. F7 recognizes Lm3B32 and Lm3B11.

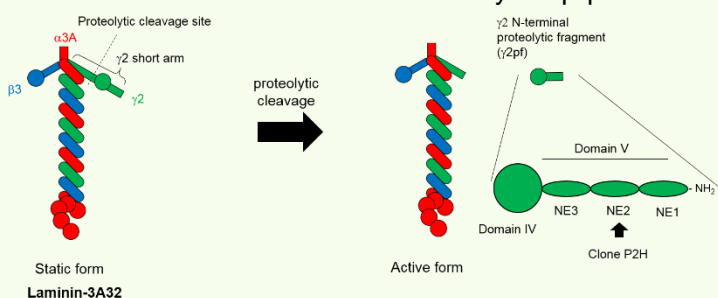
Both clones are useful for testing cancer malignancy and identifying various specific functions of Laminin.



### ■ Anti-Laminin- $\gamma$ 2 N-terminal Fragment (P2H)

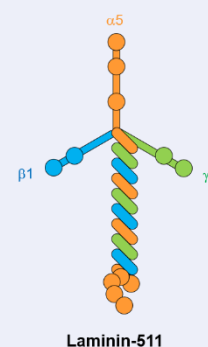
Laminin gamma2, the only component of Lm332, is a marker gene of invasive cancer tissue.

Laminin gamma-2 chain is activated via proteolytical cleavage at N-terminal. N-terminal proteolytic fragment of gamma-2, called  $\gamma$ 2pf, is highly accumulated in cytosol under malignant cancer. Clone P2H is the world first antibody for  $\gamma$ 2pf.



### ■ Anti-Laminin-511 (12D)

There are two similar isoforms, Lm511 and Lm521, and it was difficult for conventional antibodies such as anti-alpha 5 chain to separate them. Clone 12D specifically reacts with trimeric structure of Lm511, but does not react with each component and similar isoform, Lm521. In human cancers, clone 12D detects small vascular vessels with high sensitivity and hence useful for evaluating tumor angiogenesis.



### Citation and Reference

1. Kariya, Y., et al., *J. Mol. Histol.*, **39**, 435-446 (2008) (BG5 / F7)
2. Mori, T., et al., *Cancer Sci.*, **102**, 1095-1100 (2011) (F7)
3. Miyazaki, K., et al., *Cancer Sci.*, **107**, 1909-1918 (2016) (BG5 / P2H)
4. Komiya, E., et al., *Cancer Med.*, **3**, 537-549 (2014) (12D)

### Product Information

[ Manufacturer : FNA ]

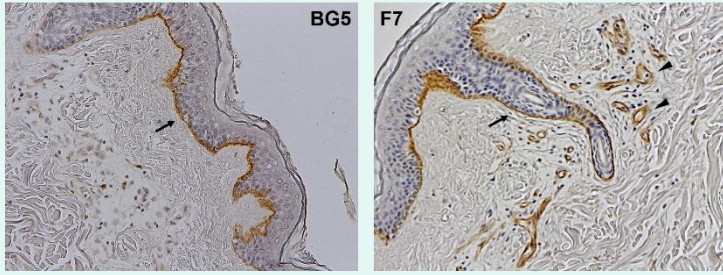
Description (Clone)	Anti-Laminin- $\alpha$ 3A (BG5)	Anti-Laminin- $\alpha$ 3B (F7)	Anti-Laminin- $\gamma$ 2 N-terminal Fragment (P2H)	Anti-Laminin-511 (12D)
Specificity	Laminin- $\alpha$ 3A *1	Laminin- $\alpha$ 3B	Laminin- $\gamma$ 2 Domain V-NE2	Laminin-511 (Lm511)
Host and Form	Mouse Ascites (Not Purified, Non-preservative)			
Subclass	IgG <sub>2a</sub>	IgG <sub>1</sub>	IgG <sub>2a</sub>	IgG <sub>2b</sub>
Cross reactivity	Human		Human and Mouse	
Application	ELISA, IHC, IP, WB		IHC(Frozen & Paraffin), WB	
Code	FDV-0024	FDV-0023	FDV-0025	FDV-0026
Size	100 $\mu$ l	100 $\mu$ l	100 $\mu$ l	100 $\mu$ l
Shipping & Storage	-20°C			

\*1 : In IHC, only detects  $\alpha$ 3A. In ELISA, IP and WB, also detects  $\alpha$ 3B.

\*2 : 12D can not be used for Paraffin section or Reducing condition.

## Example Data

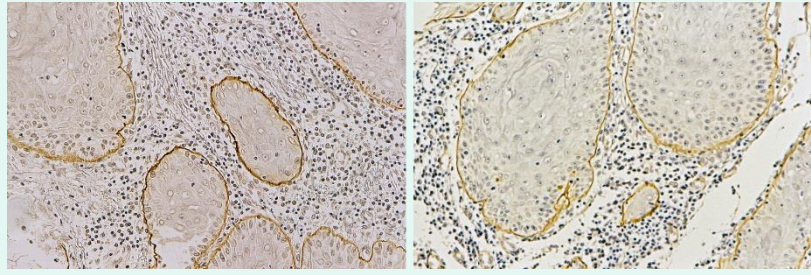
### ■ Anti-Laminin- $\alpha$ 3A (BG5) / Anti-Laminin- $\alpha$ 3B (F7)



#### IHC image of skin cancer tissue in clone BG5 and F7

Left : Clone BG5, Right : Clone F7

Both clones detected basal membrane like structure around the tumor, but F7 clone also detected vascular basement membrane (arrow heads).

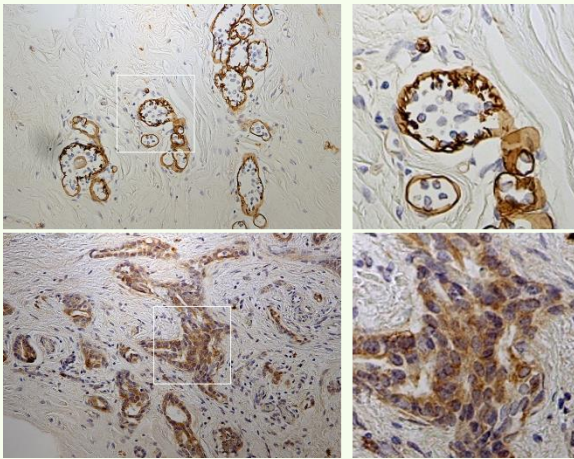


#### IHC image of skin cancer tissue in clone BG5 and F7

Left : Clone BG5, Right : Clone F7

Both clones detected basal membrane like structure around the tumor.

### ■ Anti-Laminin- $\gamma$ 2 N-terminal Fragment (P2H)

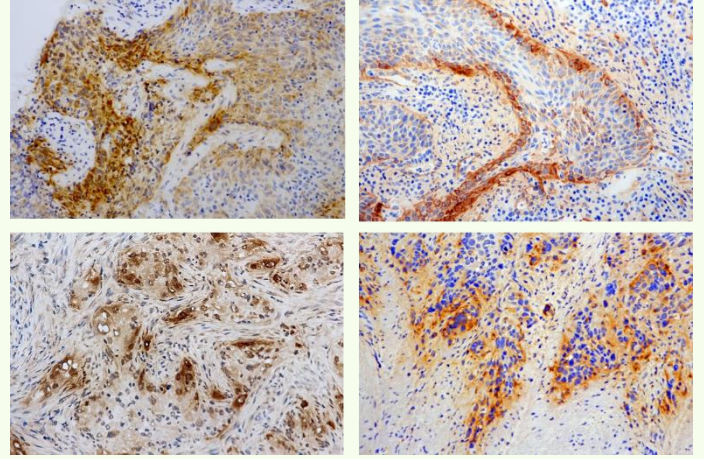


#### IHC image of tissues in clone P2H

Upper images : Normal mammary gland

Lower images : Breast cancer

P2H stained basement membranes surrounding mammary glands in normal tissue, whereas in a breast cancer tissue cytoplasmic accumulation of  $\gamma$ 2pf or its fragments is detected.



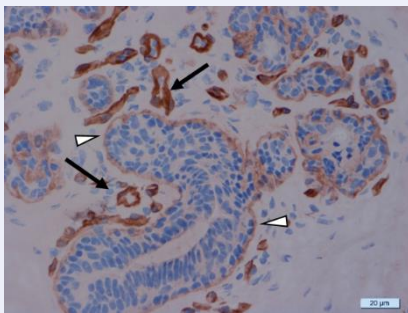
#### IHC image of tissues in clone P2H

Upper images : Invasive lung SCC

Lower images : Invasive lung ADC

P2H strongly detected cytoplasm of cancer cells at invasion fronts.  
(SCC : Squamous Cell Carcinoma ADC : Adenocarcinoma)

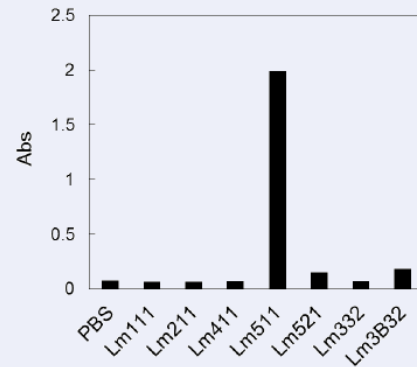
### ■ Anti-Laminin-511 (12D)



#### IHC image of human normal mammary gland in clone 12D

Black arrows : Vascular basement membrane

White arrowheads : Mammary gland basement membrane



#### Specificity of clone 12D against laminin isoforms

Seven recombinant human laminins were coated on a multi-well plate and detected by clone 12D. The data shows clone 12D specifically reacted with Laminin 511.

#### NOTE

※ All products here are research use only, not for diagnostic use.  
※ Specs might be changed for improvement without notice.

※ Company name and product name are trademark or registered mark.  
※ Please contact your local distributors for orders, quote request and inquiry.

Your Local Distributor

**Funakoshi Co., Ltd.**

Address: 9-7 Hongo 2-Chome, Bunkyo-ku,

Tokyo 113-0033 JAPAN

Phone : +81-3-5684-6296

Fax : +81-3-5684-6297

Email : export@funakoshi.co.jp